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VOL. III.

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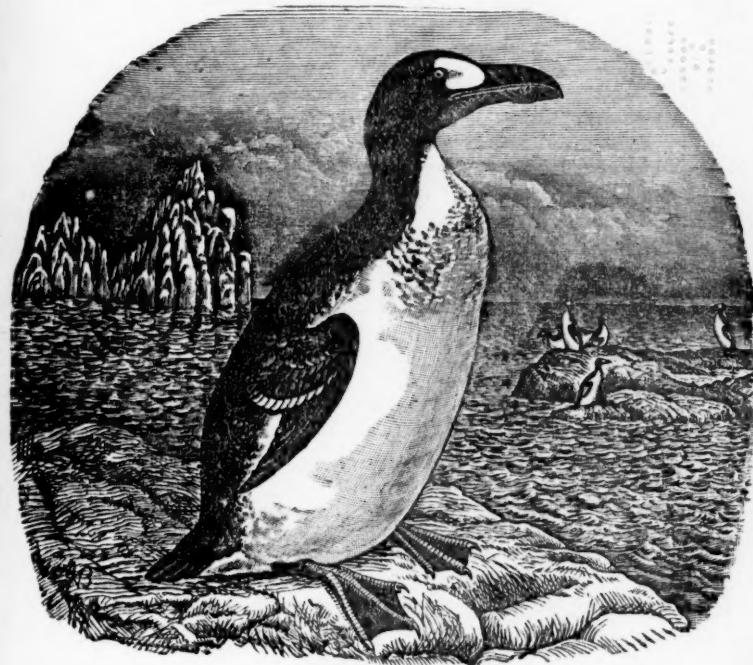
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EDITOR,

J. A. ALLEN

ASSOCIATE EDITORS,

ELLIOTT COUES, ROBERT RIDGWAY, WILLIAM BREWSTER,
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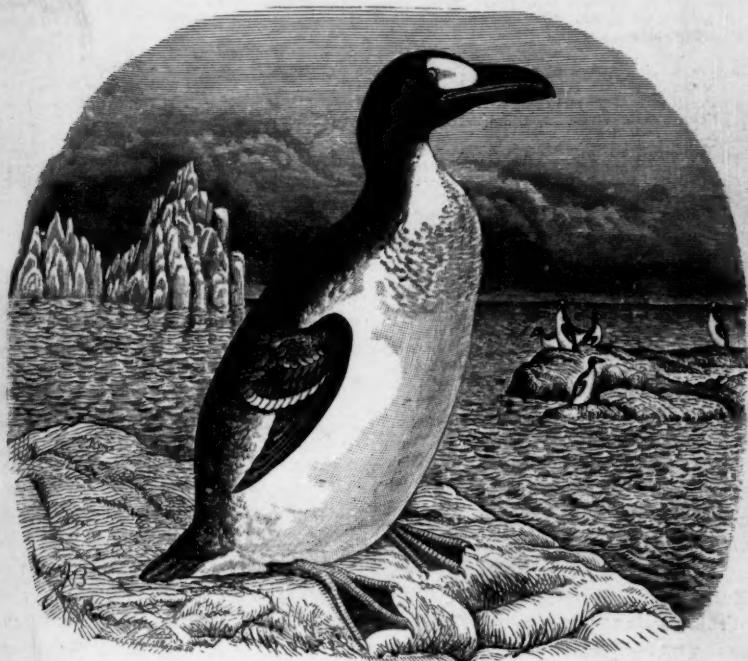
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CHAPMAN, FRANK M., Englewood, N. J.	1885
CLARK, J. N., Saybrook, Conn.	1885
COALE, H. K., 2340 Wabash Avenue, Chicago, Ill.	1883
CONKLIN, WM. A., Dept. of Public Works, 64th St. & 5th Ave., New York City	1885
COPE, ALBAN, Germantown, Pa.	1885
DAVISON, J. L., Lockport, Niagara, Co., N. Y.	1885
DICKINSON, EDWIN, Springfield, Mass.	1885
DOAN, WM. D., Atglen, Chester Co., Penn.	1885
DREW, FRANK M., Bunker Hill, Ill.	1885
DUTCHER, WILLIAM, 231 West 128th St., New York City	1883
DWIGHT, JONATHAN, Jr., 2 East 34th St., New York City	1883
EDDY, A. A., 509 North Grant St., Bay City, Mich.	1885
EMERSON, W. OTTO, Haywards, Cal.	1885
EMMETT, WM. T., Pelham, Westchester Co., N. Y.	1885

EVERMANN, Prof. B. W., Terre Haute, Ind.	1883
FAIRBANKS, Hon. FRANKLIN, St. Johnsbury, Vt.	1885
FISHER, WM. HUBBELL, 12 and 13 Wiggins Block, Cincinnati, Ohio.	1883
FOSTER, LYMAN S., 35 Pine St., New York City.	1883
FOX, DR. WM. H., 60 West 19th St., New York City.	1885
GAULT, B. F., 860 Washington Building, Chicago, Ill.	1885
GESNER, Rev. A. H., 22 East 131st St., New York City.	1885
GOODALE, JOS. L., 8 Cragie St., Cambridge, Mass.	1885
GOSS, B. F., Pewaukee, Waukesha Co., Wis.	1883
GRANT, U. S., 225 Prospect St., Minneapolis, Minn.	1885
GREGG, DR. WM. H., 43 Cambridge Place, Brooklyn, N. Y.	1885
HALLOCK, CHARLES, Hallock, Minn.	1885
HAPGOOD, WARREN, Court St., Boston, Mass.	1885
HARDY, MANLY, Brewer, Me.	1883
HAZARD, R. G., 2nd, Peace Dale, R. I.	1885
HENDRICKSON, W. F., Long Island City, N. Y.	1885
HOLBROOK, Judge S. T., Norwich, Conn.	1885
HOLMES, E. S., D.D.S., 103 Ottawa St., Grand Rapids, Mich.	1885
HOLTERHOFF, G., Jr., San Diego, Cal.	1883
HOUGH, ROMEYN B., Lowville, N. Y.	1883
HOY, DR. P. R., Racine, Wis.	1883
HVOSLEF, DR. J. C., Lanesboro, Minn.	1885
INGALLS, CHARLES E., East Templeton, Mass.	1885
INGERSOLL, ALBERT M., Alameda, Cal.	1885
JEFFRIES, WM. A., 78 Devonshire St., Boston, Mass.	1883
JENCKS, FRED. T., Hill's Grove, Providence, R. I.	1883
JENNINGS, DR. G. K., Jewett City, Conn.	1885
JOHNSON, ALBERT I., Hydeville, Vt.	1885
JOHNSON, Prof. O. B., Seattle, Wash. Terr.	1885
JONES, Mrs. N. E., Circleville, Ohio.	1885
JORDAN, Prof. D. S., Bloomington, Ind.	1885
KEYES, C. R., Des Moines, Iowa.	1885
KIMBALL, S. T., Ellington, Conn.	1885
KUMLIEN, THURE, Albion, Wis.	1883
LAMB, CHARLES R., Cambridge, Mass.	1885
LANTZ, Prof. D. E., Manhattan, Kan.	1885
LAWRENCE, ROBERT B., 34 Wall St., New York City.	1883
LINDEN, Prof. CHARLES, 75 E. Eagle St., Buffalo, N. Y.	1885
LLOYD, WILLIAM, San Angela, Texas.	1885
LOOMIS, L. M., Chester, S. C.	1883
MACOUN, Prof. J., Geol. and Nat. Hist. Surv., Ottawa, Can.	1883
MCKAY, Prof. A. H., Pictou, N. S.	1885
MERRIAM, Miss FLORENCE A., Locust Grove, N. Y.	1885
MERRIL, HARRY, Bangor, Me.	1883
MINOT, H. D., 39 Court St., Boston, Mass.	1883
MURDOCH, JOHN, Smiths. Inst., Washington, D. C.	1883
OSBORNE, THOMAS B., New Haven, Conn.	1885
PARK, AUSTIN F., 31 Museum Building, Troy, N. Y.	1885

PETERSON, J. P., Luck, Wis.....	1885
PRESTON, J. W., Baxter, Iowa.....	1885
RAGSDALE, G. H., Gainesville, Texas.....	1885
RAWSON, CALVIN, Jr., Norwich, Conn.....	1885
RHOADES, SAMUEL N., Haddonfield, N. J.....	1885
RIKER, C. B., 301 Produce Exchange, New York City.....	1885
RILEY, Prof. C. V., U. S. Entomologist, Washington, D. C.....	1885
RIVES, Dr. WM. E., Newport, R. I.....	1885
SAGE, HENRY W., Murand's Road, Albany, N. Y.....	1885
SCOTT, W. L., 86 Sparks St., Ottawa, Can.....	1883
SPELMAN, H. W., 62 Sparks St., Cambridge, Mass.....	1883
STANTON, Prof. J. Y., Lewiston, Me.....	1883
STEPHENS, F., San Bernardino, Cal.....	1883
STODDARD, MRS. G. L. F., South Woodstock, Conn.....	1885
STONE, WITMER, Fisher's Lane, Germantown, Penn.....	1885
TALBOT, D. H., Sioux City, Iowa.....	1885
THOME, Capt. PLATTE M., 22d Inf. U. S. A., Fort Lyon, Col.....	1885
THOMPSON, ERNEST E., Toronto, Can.....	1883
THOMPSON, FRANK J., Dept. Public Works, 64th St. & 5th Ave., New York City.....	1885
TORREY, BRADFORD, 1 Somerset St., Boston, Mass.....	1883
TOWNSEND, C. H., Smiths. Inst., Washington, D. C.....	1883
TREAT, WILLARD E., East Hartford, Conn.....	1885
TROMBLEY, JEROME, Petersburg, Mich.....	1885
TRUMBULL, GURDON, Hartford, Conn.....	1884
TURNER, LUCIEN M., Smiths. Inst., Washington, D. C.....	1885
TURNER, Dr. M. H., Hammondville, Essex Co., N. Y.....	1885
VAN CORTLAND, Miss ANNE P., Croton Landing, Westchester Co., N. Y.....	1885
WADSWORTH, D. S., Hartford, Conn.....	1885
WAKEFIELD, J. R., Dedham, Mass.....	1885
WARREN, Dr. B. H., West Chester, Penn.....	1885
WILLARD, S. W., West DePere, Wis.....	1883
WILSON, CHARLES B., Benton Falls, Me.....	1885

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BURMEISTER, Dr. HERMANN VON, Director National Museum, Buenos Ayres.....	1884
CABANIS, Prof. Dr. JEAN, Alte Jacobstrasse, 103a, Berlin, Germany.....	1883
DRESSER, HENRY E., Topclyffe Grange, Farnborough, Beckenham, Kent, England.....	1883
FINSCH, Dr. OTTO, Bremen, Germany.....	1883
GÄTKE, HEINRICH, Heligoland.....	1884
GIGLIOLI, Dr. HENRY HILLYER, Royal Superior Institute, Florence, Italy	1883

GUNDLACH, Dr. JUAN , Ingenio Fermina, Bemba, Cuba.....	1883
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HARTLAUB, DR. GUSTAV , Bremen, Germany.....	1883
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*SCHLEGEL, Prof. DR. HERMAN , Leyden, Holland.....	1883
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BLASIUS, Dr. WILHELM , Brunswick, Germany.....	1884
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COLLETT, ROBERT , Christiania, Norway.....	1883
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DAVID, L'ABBÉ ARMAND , Rue de Sevres, 95, Paris.....	1883
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*Deceased.

DUGÈS, Prof. ALFREDO, Colegio del Estado, Guanajuanto, Mexico.	1884
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HARGITT, EDWARD, Broadwater Lodge, Broadwater, Worthing, Sussex, England.....	1884
HARTING, JAMES EDWARD, 24 Lincoln's-Inn Fields, London.....	1883
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HOLUB, Dr. EMIL, Vienna.....	1884
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KRUENBURG, Dr. C. F. W., Wurzburg, Germany.....	1884
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MARSCHALL, Graf A. F., Wallzeil 33, Vienna.....	1884
MENZBIER, Dr. M., Moscow, Russia.....	1884
MEYER, Dr. A. B., Königl. Zool. Museum, Dresden	1884
MIDDENDORFF, Dr. A. VON, Dorpat, Russia.....	1884
MOJSISOVICS, Dr. A. VON, Gratz, Austria.....	1884
NICHOLSON, FRANK, 62 Fountain St., Manchester, England	1884
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PREJEVALSKY, Colonel N., Acad. of Science, St. Petersburg, Russia.	1884
PRYER, HARRY, Yokohama, Japan.....	1883
RADDE, Dr. GUSTAV FERDINAND, Tiflis, Russia.....	1884
RAMSAY, E. P., Sydney, New South Wales, Australia.....	1884
REICHENOW, Dr. ANTON, Grossbeerstrasse, 52, Berlin S. W.....	1884
SCHRENCK, Dr. L'OPOLD VON, St. Petersburg, Russia.....	1884
SCOTT, W. E. D., Tarpon Springs, Fla.....	1884
SELYS-LONGSCHAMPS, Baron EDMOND DE, Liége, Belgium.....	1884

SEVERTZOW, Dr. N., Société Impériale des Naturalists de Moscow, Moscow	1884
SHALOW, Dr. HERMAN, Berlin, Germany.....	1884
SHELLEY, Capt. G. E., 6 Tenterden St., Hanover Sq., London.....	1884
STEVENSON, HENRY, Unthanks Road, Norwich, England.....	1884
THEEL, Dr. HJALMAR, University of Upsala, Upsala, Sweden.....	1884
TRISTRAM, Rev. CANON H. B., The College, Durham, England....	1884
TSCHEUSI ZU SCHMIDHOFFEN, Count VICTOR RITTER VON, near Hal- lein, Salzburg, Austro-Hungary.....	1884
WHARTON, HENRY T., 39 St. George's Road, Kilburn, London, N.W.	1883
ZELEDON, Sr. DON JOSÉ C., San José, Costa Rica.....	1884

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8-19-24

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A QUARTERLY JOURNAL OF
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VOL. III.

JANUARY, 1886.

NO. I.

THE BIRDS OF THE WEST INDIES, INCLUDING
THE BAHAMA ISLANDS, THE GREATER AND
THE LESSER ANTILLES, EXCEPTING
THE ISLANDS OF TOBAGO
AND TRINIDAD.

BY CHARLES B. CORY.

THE following pages contain, as far as known, all the species which are found in the West India Islands. No descriptions are given of well known North American birds, and the references to such are mainly restricted to the citation of works and papers on West Indian Ornithology.

FAMILY TURDIDÆ.

GENUS *Turdus* LINN.

Turdus LINN. Syst. Nat. I, p. 291 (1766).

Turdus mustelinus GMEL.

Turdus mustelinus GMEL. Syst. Nat. I, p. 817 (1788).—D'ORB. in La Sagra's Hist. Nat. Cuba, Ois. p. 49 (1840).—GOSSE, Bds. Jam. p. 144 (1847) (Jamaica)?—GUNDL. J. f. O. 1855, p. 469 (Cuba); ib. 1872, p. 405 (Cuba).—BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 307 (1860) (Cuba).—ALBRECHT, J. f. O. 1862, p. 201 (Jamaica).—COUES, Bds. Colo. Vall. p. 28 (1878).—SEEBOHM, Cat. Bds. Brit. Mus. V, p. 196 (1881).—CORY, List Bds. W. I. p. 5 (1885).¹

Occasionally found in Cuba, and recorded from Jamaica, but its occurrence in the latter island is questioned.

Turdus fuscescens STEPH.

Turdus fuscescens STEPH. Shaw's Gen. Zool. Bds. 1817, p. 182.—GUNDL. J. f. O. 1861, p. 324; *ib.* Repert. Fisico-Nat. Cuba, I, p. 288 (1865) (Cuba).—SEEBOHM, Cat. Bds. Brit. Mus. V, p. 203 (1881).—CORY, List Bds. W. I. p. 5 (1885).

Turdus minor LESS. D'Orb. in La Sagra's Hist. Nat. Cuba, Ois. p. 47 (1840).

Common in Cuba.

Turdus swainsoni CABAN.

Turdus swainsoni CAB. Tschudi's Fauna Peruana, 1844; *ib.* J. f. O. 1857, p. 241 (Cuba).—BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 307 (1860).—GUNDL. J. f. O. 1861, p. 324; *ib.* 1872, p. 405 (Cuba).—COUES, Bds. Colo. Vall. p. 34 (1878).—CORY, List Bds. W. I. p. 5 (1885).

Accidental in Cuba.

Turdus aliciae BAIRD.

Turdus aliciae BD. CASS. & LAWR. Bds. N. Am. p. 217 (1858).—GUNDL. Repert. Fisico-Nat. Cuba, I, p. 229 (1865).—BD. BWR. & RIDGW. Hist. N. Am. Bds. I, p. 11 (1874).—SEEBOHM, Cat. Bds. Brit. Mus. V, p. 202 (1881).—CORY, Bds. Haiti & San Domingo, p. 17 (1885); *ib.* List Bds. W. I. p. 51 (1885).

Cuba and San Domingo; not common.

GENUS Merula LEACH.

Merula LEACH, Cat. Brit. Mus. p. 20 (1816).

Merula jamaicensis (GMEL.).

Turdus jamaicensis GMEL. Syst. Nat. I, p. 809 (1788).—BP. Consp. I, p. 271 (1850).—SCL. P. Z. S. 1859, p. 327; *ib.* 1861, p. 70.—ALBRECHT. J. f. O. 1862, p. 191.—MARCH, Pr. Acad. Nat. Sci. Phila. 1863, p. 292.—GRAY, Handl. Bds. I, p. 257 (1869).—SCL. & SALV. Nom. Avium Neotr. p. 1 (1873).—SEEBOHM, Cat. Bds. Brit. Mus. V, p. 208 (1881).—A. & E. NEWTON, Handb. Jamaica, p. 105 (1881).
Merula jamaicensis GOSSE, Bds. Jam. p. 142 (1847).—DENNY, P. Z. S. (1847), p. 38.—CORY, List Bds. W. I. p. 5 (1885).

Turdus capucinus "HARTL," fide BP. Consp. I, p. 271 (1850).

Turdus leucophthalmus "HILL," fide BP. Consp. I, p. 271 (1850).

Turdus lerebouletti BP. Compt. Rend. XXXVIII, p. 3 (1854).

SP. CHAR. *Male*.—Chin, and a band on the lower part of the throat showing white; the rest of entire head and throat reddish brown; back brown, with a faint tinge of olive, becoming grayish on the rump; underparts grayish brown, becoming dull white on the abdomen; wings and tail dark brown.

The sexes are similar.

Length (skin), 8.50; wing, 4.50; tail, 3.50; tarsus, 1.25; bill, .70.

HABITAT. Jamaica.

Merula migratoria (LINN.).

Turdus migratorius LINN. Syst. Nat. I, p. 292 (1766).—BD. BWR. & RIDGW. Hist. N. Am. Bds. I, p. 25 (1874).—SEEBOHM, Cat. Bds. Brit. Mus. V, p. 220 (1881).

Planesticus migratorius GUNDL. J. f. O. 1872, p. 405.

Merula migratoria CORY, List Bds. W. I. p. 5 (1885).

Accidental in Cuba.

Merula aurantia (GMEL.).

Turdus aurantius GMEL. Syst. Nat. I, p. 832 (1788).—BP. Consp. I, p. 275 (1850).—SCL. P. Z. S. 1861, p. 70; ib. Cat. Am. Bds. p. 6 (1862).—ALBRECHT, J. f. O. 1862, p. 192.—MARCH, Pr. Acad. Nat. Sci. Phila. 1863, p. 292.

Turdus leucogenus LATH. Ind. Orn. I, p. 341 (1790).—VIEILL. Nouv. Dict. XX, p. 254 (1818).

Merula saltator "HILL. Comp. Jam. Alm. 1842."—GOSSE, Bds. Jam. p. 140 (1847).

Merula leucogenys GOSSE, Bds. Jam. p. 136 (1847).

Catharus aurantius BP. Compt. Rend. XXXVIII, p. 3 (1854).

Semimerula aurantia BAIRD, Rev. Am. Bds. p. 84 (1864).—A. & E. NEWTON, Handb. Jamaica, p. 105 (1881).

Mimocichla aurantia SCL. & SALV. Nom. Avium Neotr. p. 2 (1873).

Merula aurantia SEEBOHM, Cat. Bds. Brit. Mus. V, p. 247 (1881).—CORY, List Bds. W. I. p. 5 (1885).

SP. CHAR. *Male*:—Top of head dark brown; chin white; abdomen dull white; the rest of plumage slaty brown; wings and tail dark brown; two of the greater wing-coverts next to the inner secondaries broadly edged with white, giving a noticeable white marking to the wing.

Female:—Appears to be similar to the male, but is perhaps somewhat paler. Some specimens do not seem to differ at all in coloration.

Length (skin), 9.50; wing, 5; tail, 4; tarsus, 1.80; bill, .85.

HABITAT. Jamaica.

Merula gymnophthalma (CABAN.).

Turdus gymnophthalmus CAB. Schomb. Reis. Guian. III, p. 665 (1848). — GRAY, Handl. Bds. I, p. 257 (1869). — SCL. & SALV. Nom. Avium Neot. p. 1 (1873). — SEEBOHM, Cat. Bds. Brit. Mus. V, p. 212 (1881).

Turdus gymnoptysis "TEM." fide Bp. Consp. I, p. 272 (1850).

Turdus nudigenis LAFR. Rev. Zool. 1848, p. 4. — LEOT. Ois. Trinid. p. 20 (1866).

Turdus caribaeus LAW. Ann. N. Y. Acad. Sci. I, p. 160 (1878); *ib.* Pr. U. S. Nat. Mus. I, p. 486 (1878).

Turdus gymnogenys SCL. & SALV. Ibis, 1879, p. 357.

Merula gymnophthalma CORY, List Bds. W. I. p. 5 (1885).

SP. CHAR. Male: — Above dull olive brown; underparts pale brown; throat pale, mottled with dull brown; belly pale, showing markings of dull white on the crissum; under wing-coverts pale rufous.

The sexes are similar.

Length (skin), 8.50; wing, 4.75; tail, 4; tarsus, 1.15.

HABITAT. Grenada, Trinidad, and Tobago.

Specimens taken in Grenada vary slightly in size and coloration from South American examples, but are apparently the same.

Merula nigrirostris (LAWR.).

Turdus nigrirostris LAW. Ann. N. Y. Acad. Sci. I, p. 147 (1878). — LISTER, Ibis, 1880, p. 39. — SEEBOHM, Cat. Bds. Brit. Mus. V, p. 218 (1881).

Merula nigrirostris CORY, List Bds. W. I. p. 5 (1885).

Female: — Front, crown, and occiput dark warm brown, each feather of the crown and occiput with a shaft-stripe of dull pale rufous; upper plumage reddish olivaceous brown, deeper in color on the upper part of the back and on the wing-coverts; the latter have their ends marked with small spots of bright rufous, which possibly may be an evidence of the example not being fully mature; the tail is of a dark warm brown, the shafts black; inner webs of quills blackish brown; the outer webs reddish brown, of the same color as the tail-feathers; the shafts are glossy black; under lining of wings clear cinnamon red; under plumage light brownish ash, with the middle of the abdomen and the crissum white; on the upper part of the breast a few feathers end with dark reddish brown, forming an irreg-

ular narrow band; the throat unfortunately is soiled with blood, but as well as I can judge, it has stripes colored like the breast, and the feathers edged with whitish; the thighs are dull rufous; the bill is large and strong, the upper mandible is black, the under also, but showing a brownish tinge; tarsi and toes dark brown."

The sexes are similar.

"Length (fresh), 9 $\frac{1}{4}$ in.; wing, 4 $\frac{1}{2}$; tail, 3 $\frac{1}{2}$; tarsus, 1 $\frac{1}{4}$; bill from front, $\frac{1}{4}$." (LAWR. orig. descr.)

HABITAT. St. Vincent.

This species is allied to *M. fumigatus*, but is perfectly distinct. It has thus far only been taken in the island of St. Vincent.

GENUS *Mimocichla* SCL.

Mimocichla SCLATER, P. Z. S. 1859, p. 336.

Mimocichla rubripes (TEMM.).

Turdus rubripes TEMM. Pl. Col. II, p. 409 (1826).—VIG. Zool. Journ. III, p. 439 (1827).—D'ORB. in La Sagra's Hist. Nat. Cuba, Ois. p. 46 (1840).—GUNDL. Bost. Journ. Nat. Hist. VI, p. 318 (1852).

Mimus rubripes Bp. Conspl. I, p. 276 (1850).

Galeoscoptes rubripes CAB. Mus. Hein. I, p. 82 (1850).—BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 307 (1860).

Minocichla rubripes SCL. Cat. Am. Bds. p. 6 (1862).—BAIRD, Rev. Am. Bds. p. 38 (1864).—GRAY, Handl. Bds. I, p. 263 (1869).—GUNDL. J. f. O. 1872, p. 406.—SCL. & SALV. Nom. Avium Neot. p. 2 (1873).—SEEBOHM. Cat. Bds. Brit. Mus. V, p. 283 (1881).—CORY, List Bds. W. I. p. 5 (1885).

SP. CHAR. *Male*:—Upper plumage dark slate gray; feathers on the head darker in the centre; lores and ear-coverts very dark brown; chin and lower sides of the cheeks white; throat black, the lower portion having the feathers margined with gray; breast and upper part of the belly and sides slate gray; lower part of the belly and thighs chestnut; under tail-coverts white; quills, secondaries, and wing-coverts black, edged with slate color; tail brownish black, the four outer feathers on each side tipped with white, some of the feathers showing gray at the base of the outer webs; bill brownish black.

The sexes are similar.

Length (skin), 10; wing, 4.40; tail, 4.20; tarsus, 1.45; bill, .90.

HABITAT. Cuba.

Mimocichla schistacea BAIRD.

Mimocichla schistacea BAIRD, Rev. Am. Bds. p. 37 (1864).—GRAY, Handl. Bds. I, p. 263 (1869).—GUNDL. J. f. O. 1872, p. 407.—CORY, List Bds. W. I. p. 5 (1885).

SP. CHAR.—General appearance of *M. rubripes*, but lacking the reddish on the belly, which is replaced by white; the crissum is also white; bill heavier than in *rubripes*; otherwise the two forms are alike.

Length, 10.50; wing, 5; tail, 5.10; tarsus, 1.50; bill, 1.20.

HABITAT. Eastern part of Cuba.

Dr. Gundlach (J. f. O., l. c.) considers this a good species, and says the eggs are smaller and more finely spotted than those of *M. rubripes*. Seeböhm (Cat. Bds. Brit. Mus. V, p. 283), gives *M. schistacea* as a synonym of *M. rubripes*, but gives no reasons for so doing. Although it would be strange if two species of *Mimocichla* should be found to inhabit Cuba, yet, with our present knowledge of the two forms, *M. schistacea* must be considered distinct.

Mimocichla plumbea (LINN.).

Turdus plumbeus LINN. Syst. Nat. I, p. 294 (1766).—VIEILL. Ois. Am. Sept. II, p. 2, pl. 58.

Turdus ardosiacens VIEILL. Ency. Méth. p. 646 (1823).

Galeoscoptes plumbea CAB. Mus. Hein. I, p. 82 (1850).—SALLÉ, P. Z. S. 1857, p 231.—SCL. P. Z. S. 1859, p. 337.

Mimocichla plumbeus BAIRD, Rev. Am. Bds. p. 36 (1864).—SCL. & SALV. Nom. Avium Neotr. p. 2 (1873).—CORY, Bds. Bahama I. p. 45, pl. 11 (1880); *ib.* List Bds. W. I. p. 5 (1885).

Turdus (Mimokitta) plumbeus BRYANT, Pr. Bost. Soc. Nat. Hist. XI, p. 68 (1866).

Mimocitta plumbea NEWTON, Ibis, 1866, p. 121.

Mimokitta plumbeus GRAY, Handl. Bds. I, p. 263 (1869).

Mimocichla bryanti SEEBOHM, Cat. Bds. Brit. Mus. V, p. 280 (1881).

SP. CHAR. *Male*:—General plumage plumbeous; chin and small patch at base of lower mandible white; throat black; primaries and secondaries dark brown, except the first two, edged with slaty grey; tail very dark brown, almost black; the terminal third of the inner webs of the first two, and tips of first four feathers white; crissum plumbeous; legs and eyelids vermillion red; iris reddish brown.

Female:—Similar to the male, but appears to be slightly smaller.

Cannot be distinguished otherwise than by dissection.

Length, 10.25; wing, 5; tail, 5; tarsus, 1; bill, 90.

HABITAT. Bahama Islands. Common at New Providence, Andros, and Abaco.

Mimocichla ardesiaca (VIEILL.).

Turdus plumbeus LINN. Syst. Nat. I, p. 294 (1866).—VIEILL. Ois. Am. Sept. II, p. 2 (1807); *ib.* Nouv. Dict. Hist. Nat. XX, p. 242 (1818).

Turdus ardosiacus VIEILL. Ency Méth. p. 646 (1823).—BRYANT, Pr. Bost. Soc. Nat. Hist. XI, p. 92 (1866); *ib.* X, p. 25 (1866).

Mimus plumbeus GRAY, Gen. Bds. I, p. 221 (1844).—Bp. Consp. I, p. 276 (1850).

Galeoscoptes plumbeus CAB. Mus. Hein. I, p. 82 (1850).—SALLÉ, P. Z. S. 1857, p. 231.

Mimocichla ardosiaca BAIRD, Rev. Am. Bds. p. 39 (1864).—GUNDL. J. f. O. 1878, p. 165; *ib.* Anal. Soc. Esp. Hist. Nat. VII, p. 171 (1878).

Turdus ardosiacus var. *portoricensis* BRYANT, Pr. Bost. Soc. Nat. Hist. XI, p. 93 (1866).

Mimokitta ardosiacea Gray, Handl. Bds. I, p. 263 (1869).

Mimokitta ardosiacea var. *portoricensis* GRAY, Handl. Bds. I, p. 263 (1869).

Mimocichla ardesiaca SCL. & SALV. Nom. Avium Neot. p. 2 (1873).—SEEBOHM, Cat. Bds. Brit. Mus. V, p. 282 (1881).—CORY, Bull. Nutt. Orn. Club, VI, p. 151 (1881); *ib.* Bds. Haiti & San Domingo, p. 18 (1885); *ib.* List Bds. W. I. p. 5 (1885).—TRISTRAM, Ibis, 1884, p. 168.

SP. CHAR. *Male*:—General plumage plumbeous; a patch of black extending from below and in front of the eye to the base of the upper mandible; throat white, streaked heavily with black; top of head somewhat dotted with brown; underparts pale plumbeous, becoming white on the abdomen and crissum; primaries dark brown, the outer webs edged with plumbeous gray; same marking, but much broader, edging the secondaries; tail dark brown, the outer feathers broadly tipped with white, the white becoming less and less to the fourth, which is only narrowly touched; but the tail-marking varies in different specimens and seasons; bill, eyelids, and legs vermillion orange; iris reddish brown.

The sexes are similar.

Length, 10; wing, 5.20; tail, 4.70; tarsus, 1.40; bill, .75.

HABITAT. San Domingo and Porto Rico.

GENUS *Cichlherminia* BONAPARTE.

Cichlherminia Bp. Comptes Rendus, XXXVIII, p. 2 (1854).

Cichlherminia herminieri (LAFR.).

Turdus herminieri LAFR. Rev. Zool. 1844, p. 167.—GRAY, Gen. Bds. I, p. 219 (1844).

Cichlherminia herminieri Bp. Compt. Rend. XXXVIII, p. 2 (1854).—SHARPE, Cat. Bds. Brit. Mus. VI, p. 327 (1881).—CORY, List Bds. W. I. p. 5 (1885).

Cichlherminia bonapartii SCL. P. Z. S. 1859, p. 335.

Cichlherminia Pherminieri GRAY, Handl. Bds. I, p. 259 (1869).

Margarops herminieri SCL. & SALV. Nom. Avium Neot. p. 2 (1873).—LAWR. Pr. U. S. Nat. Mus. I, p. 52 (1878).—SCL. P. Z. S. 1880, p. 72.

SP. CHAR. *Male*:—Above brown; intermediate between *C. dominicensis* and *C. sanctæ-luciae*; the feathers on the crown showing faint dusky

margins; ear-coverts brown, showing pale shaft-lines; throat rufous brown, palest on the upper portion; the centre of the feathers showing dull white; rest of underparts having the feathers white edged with brown, giving the feathers a clean-cut, pointed appearance, the white portion somewhat resembling a broad arrow head; quills and tail brown; upper surface of tail-feathers showing a rufous tinge; under mandible and tarsus pale.

The sexes are similar.

Length (skin), 9.40; wing, 5.25; tail, 3.50; tarsus, 1.70; bill, 1.

HABITAT. Guadeloupe and Martinique.

Cichlherminia sanctæ-luciae (SCL.).

Margarops herminieri SCL. P. Z. S. 1871, p. 268.—SCL. & SALV. Nom. *Avium Neot. p. 2 (1873).*

Margarops sanctæ-luciae SCL. Ibis, 1880, p. 73.—ALLEN, Bull. Nutt. Orn. Club, V, p. 165 (1880).

Margarops herminieri var. *semperi* LAWRI. MS. Bull. Nutt. Orn. Club, V, p. 165 (1880).

Cichlherminia sanctæ-luciae SHARPE, Cat. Bds. Brit. Mus. VI, p. 328 (1881).—CORY, List Bds. W. I. p. 5 (1885).

SP. CHAR. *Male* :—Above light brown, showing a faint olive tinge, the color paler than in *C. herminieri*; throat dull white, showing brown shaft-markings; feathers of the breast brownish white, edged with olive brown; abdomen white, showing the brown marking on the sides; quills and tail light brown; under surface of tail ashy brown; under tail-coverts showing reddish brown at the base; under mandible and tarsus dull yellow.

The sexes are similar.

Length (skin), 10; wing, 5.10; tail, 3.70; tarsus, 1.55; bill, .90.

HABITAT. Santa Lucia.

Cichlherminia dominicensis (LAWR.).



Margarops herminieri LAWRI. Pr. U. S. Nat. Mus. I, p. 52 (1878).

Margarops dominicensis LAWRI. Pr. U. S. Nat. Mus. III, p. 16, (1880).

Cichlherminia dominicensis SHARPE, Cat. Bds. Brit. Mus. VI, p. 328 (1881).—CORY, List Bds. W. I. p. 5 (1885).

“*Male* :—The entire upper plumage is of a rich dark brown, the crown is darker and has the edges of the feathers of a lighter shade; tail and quill-feathers of a darker brown than the back; axillæs and under wing-coverts white; the lores are blackish brown; the feathers back of the eyes and the ear-coverts have narrow shaft-streaks of pale rufous; the feathers of the neck and upper part of the breast are of a warm dark brown, those of the chin and middle of the throat with light rufous centres, those of the lower part of the neck and the upper part of the breast have also light rufous centres, but in addition each feather has a light terminal spot; on the lower part of the breast and on the sides the feathers have white centres, bordered strikingly with brown; the markings of the breast-feathers are squamiform in shape, those of the sides lanceolate; the abdomen is white, a few feathers on the upper part are very narrowly margined with brown; under tail-coverts brown, terminating with white; outer feathers of thighs brown, the inner whitish; ‘iris tea-color’; there is a naked space around the eye; bill yellow, with the basal half of the upper mandible dusky; tarsi and toes pale yellow.”

The sexes are similar.

“Length (fresh), 9 inches; wing, 5; tail, 3½; tarsus, 1½; bill from front, 15-16, from gape 1½.” (LAWR. orig. descr.)

HABITAT. Dominica.

GENUS **Sialia** SWAINS.

Sialia SWAINSON, Zool. Journ. III, p. 173 (1827).

Sialia sialis (LINN.).

Motacilla sialis LINN. Syst. Nat. I, p. 187 (1758); *ib.* I, p. 336 (1766).

Sialia sialis GUNDL. J. f. O. 1861, p. 324; *ib.* 1862, p. 177; *ib.* 1872, p. 409; *ib.* Repert. Fisico-Nat. Cuba, I, p. 230 (1865) (Cuba).—BAIRD, Rev. Am. Bds. p. 62 (1864).—CORY, List Bds. W. I. p. 5 (1885).

Cuba; no other West Indian record.

GENUS **Myiadestes** SWAINS.

Myiadestes SWAINSON, Nat. Libr. Ornith. p. 132 (1838).

Myiadestes sibilans LAWR.

Myadestes sibilans LAWR. Ann. N. Y. Acad. Sci. I, p. 148 (1878); *ib.* Pr. U. S. Nat. Mus. I, p. 188 (1878).—LISTER, Ibis, 1880, p. 39.—CORY, List Bds. W. I. p. 5 (1885).

Myadectes sibilans SHARPE, Cat. Bds. Brit. Mus. VI, p. 371 (1881).

Myadestes sibilans STEJN. Pr. U. S. Nat. Mus. V, p. 17 (1882).

SP. CHAR.—Tail shorter than wing; upper surface very dark-brown, almost black; a tinge of olive brown on the lower back and rump; chin and portion of malar stripe joining base of lower mandible white, the rest the color of throat; shafts of ear-coverts showing delicate lines of white; the lower eyelid is also white; throat bright rufous, tinged with orange, separated from the malar stripe by a narrow black line; breast and upper abdomen ashy gray, some of the feathers often tipped with orange rufous; rest of underparts like the throat; wings black; a white patch at base of inner webs of first six primaries reaching and extending to the base of outer web on the seventh, eighth, and ninth; central tail-feathers black, becoming grayish at base; outer tail-feather showing a wedge-shaped white mark on inner web, nearly reaching the base, which is brownish black; outer web showing brownish black on terminal half, next feather marked like outer feather, but having much less white, third narrowly tipped with white, rest black except the two central feathers, as above described; bill black; legs pale yellow; "iris hazel." Some specimens seem to lack the white spot at tip of third outer tail feather.

Length about 7.20; wing, 3.30; tail, 2.75; tarsus, .95.

HABITAT. St. Vincent.

Myiadestes genibarbis SWAINS.

Myiadestes genibarbis SWAINS. Nat. Libr. XIII, p. 134 (1838).—BAIRD, Rev. Am. Bds. p. 423 (1864).—GRAY, Handl. Bds. I, p. 366 (1869).—LAWR. Pr. U. S. Nat. Mus. I, p. 352 (1878).—CORY, List Bds. W. I, p. 5 (1885).

Myiadectes genibarbis SHARPE, Cat. Bds. Brit. Mus. VI, p. 370 (1881).
Myadestes genibarbis STEJN. Pr. U. S. Nat. Mus. V, p. 18 (1882).

"Upper surface pure slaty-plumbeous, forehead slightly washed with olivaceous; lores black; also a stripe below the white patch on the under eyelid, assuming the color of the back on the ear-coverts, each feather of which and the above-mentioned stripe having a narrow well-defined white central streak behind, very faintly washed with brownish. From the base of lower mandible a well-defined malar stripe runs backwards, the anterior third of which is white, while the lower two-thirds have the color of the throat, from which the malar stripe is separated by a narrow, but distinct, black stripe, reaching close to the lower edge of the mandible. Throat and chin chestnut rufous, the white bases of the feathers on the latter showing somewhat through. Breast and upper sides of abdomen lighter than the back, almost clear ash-gray, becoming gradually lighter towards the abdomen; remaining underparts of the same color as the throat, only somewhat paler, and assuming a faint olivaceous shade on the upper abdomen; tibia like the back, a few feathers being tipped with rufous. Wings blackish, with pale edges on the primaries and two ash-gray bars across the secondaries, leaving between them a deep black

patch; wing-coverts, except the primary coverts, broadly edged with gray like the back; innermost secondaries almost entirely so; inner web of the quills white at the base, forming a broad bar on the under surface of the wing; edge of wing grayish white. Middle tail-feathers uniform slate-gray; the following pairs black, the outermost with a wedge-shape white spot on the inner web at the end, making on the innermost only one-fifth of the length of the quill, on the middle one about one-half, and on the outermost about two-thirds, the outer webs being light slate-gray for the same extent from the tip. Bill black, legs pale brownish yellow. The female seems to differ from the male in having the gray color of the breast less pure, this part being somewhat suffused with rufous-olive."

(STEJN. l. c.)

Length, 7.30; wing, 3.40; tail, 3.25; tarsus, .82.

HABITAT. Martinique.

Myiadestes sanctæ-luciae STEJN.

Myiadestes genibarbis SCL. P. Z. S. 1871, p. 269.—SEMPER, P. Z. S. 1872, p. 649.—SCL. & SALV. Nom. Avium Neot. p. 4 (1873).—ALLEN, Bull. Nutt. Orn. Club, V, p. 166 (1880).—CORY, List Bds. W. I. p. 5 (1885).

Myadestes sanctæ-luciae STEJN. Pr. U. S. Nat. Mus. V, p. 20 (1882).

"Whole upper parts slaty plumbous with a conspicuous olivaceous wash, becoming more intense on the lower back, but lacking on the rump and upper tail-coverts. The pattern of the head that of *M. genibarbis*, except that the black stripe below the eye extends further back on the auriculars, and that the white part of the malar stripe occupies the forward half. Chin pure white, this color abruptly defined against the throat, which is rufous chestnut. The remaining underparts like those of the Martinique bird, except that the gray of the breast extends more back on the abdomen. Wings and tail also have the same general appearance as in the above-mentioned-species; on the wing, however, the black speculum of the secondaries is more reduced, the adjacent gray cross-bands being broader, and on the tail the white is more extended, especially on the outer pair, in which the middle third of the outer web is white; besides, the outer webs of the three outermost rectrices are broadly tipped with white, and the following two pairs have also very distinct white tips. Bill black, feet pale yellow. In none of the seven specimens before me is the sex indicated; but as they show no differences the specimen described above, I presume there is no difference between the male and female."

(STEJN. orig. descr.)

Length, 7.25; wing, 3.45; tail, 3.30; tarsus, .86.

HABITAT. Santa Lucia.

Myiadestes dominicanus STEJN.

Myiadestes genibarbis LAWRIE. Pr. U. S. Nat. Mus. I, p. 53 (1878).—CORY, List Bds. W. I. p. 5 (1885).

Myadestes dominicanus STEJN. Pr. U. S. Nat. Mus. V, p. 22 (1882).

"Above slaty plumbeous, with a very faint tinge of olivaceous on head and back; lores and a narrow stripe above the eyes conspicuously suffused with olivaceous; almost the whole malar stripe whitish, the feathers the lower end tipped with chestnut; chin white, throat pure chestnut; breast, flanks, and abdomen, except the lower middle part of the latter, ash-gray, duller on the breast, more whitish on the abdomen, and very faintly washed with olivaceous, especially on the flanks, where more tinged with rufous; lower middle of abdomen, crissum, and under tail-coverts chestnut-rufous; wings and tail as in *M. sanctæ-lucæ*, the light basal spot on the outer web of the innermost primaries being very conspicuous and well defined; the black speculum on the secondaries larger and the amount of white on the outer tail feathers rather less than in that bird: bill black, feet pale yellow. The female differs only in having a stronger wash of olive on the back." (STEJN. orig. descr. l. c.)

Length, 7.20; wing, 3.40; tail, 3.25; tarsus, .85.

HABITAT. Dominica.

Myadestes montanus CORY.

Myadestes montanus CORY, Bull. Nutt. Orn. Club, VI, pp. 130, 151 (1881);
 ib. Bds. Haiti & San Domingo, p. 52 (1885); ib. List Bds. W. I. p. 5 (1885).

Myiadectes montanus SHARPE, Cat. Bds. Brit. Mus. VI, p. 370 (1881).

Myadestes montanus STEJN. Pr. U. S. Mus. V, p. 23 (1882).

SP. CHAR. *Female*:—Upper parts and two central tail-feathers slaty gray; primaries and secondaries brownish black, showing white near the base of the inner webs; outer webs of primaries and terminal portion of the outer webs of secondaries edged with gray; no white spot on the chin; a spot of chestnut at the malar apex; lower eyelid whitish; throat, crissum, and belly, near the vent, reddish brown, intermediate between that of *M. solitarius* and *M. sibilans*, but approaching nearer the color of the former; rest of underparts pale gray; outer tail-feather white, with black shafts, showing a dark tinge near the extremity of the outer web; second feather black, with the central portion of the terminal half white, the black narrowing to the extremity, leaving the tip white; third feather showing a triangular patch of white at the tip; rest of tail-feathers, except the two central ones, black; bill black; legs and feet pale; iris brown.

Length, 7; wing, 3.35; tail, 3.38; tarsus, 1; bill, .38.

HABITAT. Haiti. Inhabits the mountains. The type, in my collection, is unique, although the bird is probably not uncommon in some of the mountains in the interior.

Myiadestes solitarius BAIRD.

Ptilogonyx armillatus GRAY, Gen. Bds. I, p. 281 (1844).—GOSSE, Bds. Jam. p. 198 (1847).—SCL. P. Z. S. 1861, p. 73.—ALBRECHT, J. f. O. 1862, p. 196.

Myiadestes armillatus BP. Conspl. I, p. 335 (1850).—SCL. Cat. Am. Bds. p. 47 (1862).

Myiadestes solitarius BAIRD, Rev. Am. Bds. p. 421 (1864).—GRAY, Handl. Bds. I, p. 366 (1869).—SCL. & SALV. Nom. Avium Neot. p. 4 (1873).—CORY, List Bds. W. I. p. 5 (1885).

Myiadectes solitarius SHARPE, Cat. Bds. Brit. Mus. VI, p. 369 (1881).—A. & E. NEWTON, Handb. Jamaica, p. 107 (1881).

Myadestes solitarius STEJN. Pr. U. S. Nat. Mus. V, p. 24 (1882).

Myiadestes armillatus MARCH, Pr. Acad. Nat. Sci. Phila. 1863, p. 294.

Sp. CHAR.—Upper surface slaty-plumbeous; faint tinge of olivaceous on the forehead; cheeks dull black; lower eyelid and a small spot at the malar apex and extremity of chin white, rest of throat chestnut; underparts slaty-plumbeous, becoming lighter on the belly and crissum; under tail-coverts chestnut; wings and tail as in other species in character of marking.

Length, 7.45; wing, 3.6; tail, 3.6; tarsus, .80.

HABITAT. Jamaica.

Myiadestes elizabeth (LEMB.).

Muscicapa elizabeth LEMB. Aves Cuba, p. 39 (1850).

Myiadestes elizabeth CAB. J. f. O. 1856, p. 2.—BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 307 (1860).—BAIRD, Rev. Am. Bds. p. 425 (1864).—GRAY, Handl. Bds. I, p. 366 (1869).—GUNDL. J. f. O. 1872, p. 428; *ib.* Orn. Cuban Anales. 1873, p. 79.—CORY, List Bds. W. I. p. 5 (1885).

Myiadestes elizabethæ NEWTON, Ibis, 1859, p. 110.—ALBRECHT, J. f. O. 1861, p. 209.—SCL. & SALV. Exot. Orn. 1867, p. 55, pl. 28; *ib.* Nom. Avium Neot. p. 4 (1873).

Myiadectes elizabethæ SHARPE, Cat. Bds. Brit. Mus. VI, p. 372 (1881).

Myadestes elizabeth STEJN. Pr. U. S. Nat. Mus. V, p. 26 (1882).

Sp. CHAR.—Upper surface pale brownish olive, ashy on the head and rump; wings dull brown margined with pale ashy olive; tail brown margined with olive brown; central feathers dull brown, outer feathers tipped with white; throat and abdomen dull white; breast and sides shading into ashy; a faint tinge of white at the base of the forehead; lores and feathers at the eye showing pale buff; ear-coverts dull olive brown, with narrow white shaft-lines; flanks showing a tinge of olive brown; axillaries ash colored, showing a buff tinge; under wing-coverts pale buff.

Length, 7.90; wing, 3.45; tail, 3.35; tarsus, .88.

HABITAT. Cuba.

Myiadestes armillatus (VIEILL.).

Muscicapa armillata VIEILL. Ois. Am. Sept. p. 69, pl. 42 (1802); *ib.* Nouv. Dict. XXI, p. 448 (1818).

Ptilogonyx armillatus GRAY, Gen. Bds. I, p. 281 (1844); *ib.* Handl. Bds. I, p. 366 (1869).

Myiadestes armillatus BAIRD, Rev. Am. Bds. p. 422 (1864).—SCL. P. Z. S. 1871, p. 270.—LAWR. ANN. N. Y. Acad. Sci. 1878, p. 149.—CORY, List Bds. W. I. p. 5 (1885).

Myiadectes armillatus SHARPE, Cat. Bds. Brit. Mus. VI, p. 370 (1881).

Myadestes armillatus STEJN. Pr. U. S. Nat. Mus. V, p. 25 (1882).

If this bird is not one of the known species poorly described, its true habitat yet remains to be discovered. Professor Baird gives the following translation (l. c.) of Vieillot's original description.

"Bill blackish; a white spot on the sides of the throat, and at its origin (the chin) immediately below the lower mandible (the two continuous); the eye surrounded by the same color. Head, back, rump, two intermediate tail-feathers, and the breast of a grayish-slate, paler below. Wing and tail feathers blackish, bordered externally by gray, the three latera on each side of the tail more or less white. Belly and hinder parts brownish rufous; a beautiful yellow in form of a bracelet on the feathers of lower part of leg; feet brown; length 6 inches, 3 lines." (VIEILL. l. c.)

Vieillot gives the habitat as "Martinique."

FAMILY MIMIDÆ.

GENUS **Margarops** SCLATER.

Margarops SCLATER, P. Z. S. 1859, p. 335.

Margarops fuscatus (VIEILL.).

Turdus fuscatus VIEILL. Ois. Am. Sept. II, p. 1 (1807).—BP. Conspl. I, p. 276 (1850).

Colluricincla fusca GOULD, P. Z. S. 1836, p. 6.

Mimus fuscatus BP. Compt. Rend. XXXVIII, p. 2 (1854).

Cichlalopis fuscatus BP. Rev. Zool. 1857, p. 204.

Margarops fuscatus SCL. P. Z. S. 1859, p. 335.—BAIRD, Rev. Am. Bds. p. 42 (1864).—GRAY, Handl. Bds. I, p. 259 (1866).—SCL. & SALV. Nom. Avium Neot. p. 2 (1873).—GUNDL. J. f. O. 1874, p. 310; *ib.* Anal. Soc. Esp. Hist. Nat. VII, p. 172 (1878).—CORY, Bds. Bahama I, p. 47 (1880); *ib.* Bds. Haiti & San Domingo, p. 22 (1885); *ib.* List Bds. W. I. p. 6 (1885).

Cichlherminia fuscata A. & E. NEWTON, Ibis, 1859, p. 141.—SHARPE, Cat. Bds. Brit. Mus. VI, p. 329 (1881).

Merula fuscata CASSIN, Pr. Acad. Nat. Sci. Phila. 1860, p. 376.

Margarops fusca GRAY, Handl. Bds. I, p. 259 (1869).

SP. CHAR. *Male* :—Above brown, the feathers slightly edged with ash; throat and breast brown, feathers heavily edged with white, giving a mottled appearance which shows faintly on the belly and almost disappears at the vent; primaries brown, pale edged; upper tail-coverts tipped with white; tail brown, tipped with white; bill yellowish, with an olive tinge; upper mandible shading into brown at the base; legs pale olive; iris pale yellow.

The sexes are apparently similar.

Length, 10.25; wing, 5.20; tail, 4.50; tarsus, 1.40; bill, .76.

HABITAT. Inagua, Bahamas; Porto Rico, San Domingo? St. Thomas, St. Croix.

Margarops densirostris (VIEILL.).

Turdus densirostris VIEILL. Nouv. Dict. XX, p. 233 (1816).—LAFR. Rev. Zool. 1844, p. 167.—BP. Conspl. I, p. 271 (1850).

Cichlherminia densirostris BP. Compt. Rend. XXXVIII, p. 2 (1854).—SHARPE, Cat. Bds. Brit. Mus. VI, p. 330 (1881).

Margarops densirostris SCL. P. Z. S. 1859, p. 336.—GRAY, Handl. Bds. I, p. 259 (1869).—SCL. & SALV. Nom. Avium Neot. p. 2 (1873).—LAWR. Pr. U. S. Nat. Mus. I, p. 233 (1878).—SCL. P. Z. S. 1879, p. 765.—ALLEN, Bull. Nutt. Orn. Club, V, p. 166 (1880).—CORY, List Bds. W. I. p. 6 (1885).

SP. CHAR. *Male* :—Above dark brown, feathers edged with pale brown; primaries dark brown, margined with reddish brown; inner secondaries tipped with white; throat heavily marked with white on the upper portion, shading into dark brown on the breast, the feathers edged with white; centre of the belly dull white; sides mottled with white and brown; under tail-coverts white, banded with brown; tail dark brown, tipped with white; bill and legs horn color; iris pale yellow.

The sexes are similar.

Length (skin), 10.75; wing, 5.30; tail, 4.30; tarsus, 1.25; bill, 1.10.

HABITAT. Dominica, Martinique, Montserrat, Santa Lucia and Guadeloupe.

Margarops montanus (LAFR.).



Turdus montanus LAFR. Rev. Zool. 1844, p. 167.

Margarops montanus SCL. P. Z. S. 1859, p. 336; ib. 1871, p. 268.—GRAY, Handl. Bds. I, p. 259 (1869).—SCL. & SALV. Nom. Avium Neot. p. 2 (1873).—LAWR. Pr. U. S. Nat. Mus. I, p. 52 (1878).—LISTER, Ibis,

1880, p. 39.—ALLEN, Bull. Nutt. Orn. Club, V, p. 166 (1880).—CORY, List Bds. W. I. p. 6 (1885).

Cichlherminia montana SHARPE, Cat. Bds. Brit. Mus. VI, p. 330 (1881).

SP. CHAR. *Male*:—Upper plumage dark olive brown; throat and breast brown, the feathers edged with white; feathers of the lower breast dull white, banded with pale brown, the whole giving a mottled white and brown appearance to the underparts; wings and tail dark brown; the inner secondaries and some of the coverts tipped with white; tail-feathers tipped with white; bill and feet dark brown.

The female is somewhat lighter brown than the male on the under surface.

Length (skin), 9.20; wing, 4.55; tail, 3.75; tarsus, 1; bill, .65.

HABITAT. Martinique, St. Vincent, Dominica, Santa Lucia, and Guadeloupe.

GENUS *Ramphocinclus* LAFR.



Ramphocinclus LAFR. Rev. Zool. 1843, p. 66.

Ramphocinclus brachyurus (VIEILL.).

Turdus brachyurus VIEILL. Nouv. Dict. XX, p. 255 (1818).—GRAY, Gen. Bds. I, p. 219 (1844).

Pterodroma mexicanus LESS. Ann. Soc. Nat. 2d ser. IX, p. 168 (1838).

Ramphocinclus brachyurus LAFR. Rev. Zool. 1843, p. 66.—TAYLOR, Ibis, 1864, p. 166.—BAIRD, Rev. Am. Bds. p. 41 (1864).—GRAY, Handl. Bds. I, p. 264 (1869).—SCL. & SALV. Nom. Avium Neot. p. 2 (1873).—LAWR. Pr. U. S. Nat. Mus. I, p. 486 (1878).—CORY, List Bds. W. I. p. 6 (1885).

Formicarius brachyurus GRAY, Gen. Bds. I, p. 211 (1844).

Legriocinclus mexicanus LESS. Descr. Mamm. et Ois. p. 278 (1847).

Campylorhynchus brachyurus GRAY, Gen. Bds. III, App. p. 7 (1849).

Zoothera cinclops Bp. Conspl. I, p. 253 (1850).

Cinclocerthia brachyurus SCL. P. Z. S. 1855, p. 214.

Rhamphocinclus brachyurus SCL. P. Z. S. 1859, p. 338; ib. 1871, p. 268.—

ALLEN, Bull. Nutt. Orn. Club, V, p. 166 (1880).—SHARPE, Cat. Bds. Brit. Mus. VI, p. 325 (1881).

SP. CHAR. *Male*:—Top of the head dark brown, rest of upper surface dark brown, showing a tinge of chocolate brown on the back; lores and below the eye black, shading into brown on the ear-coverts; throat and breast pure white; belly white; sides of the body chocolate brown; wings and tail dark brown; bill dark brown, almost black; legs dark olive brown; iris reddish brown.

The sexes are similar.

Length (skin), 8.50; wing, 4.25; tail, 3.80; tarsus, 1.25; bill, 1.

HABITAT. Santa Lucia and Martinique.

GENUS *Cinclocerthia* GRAY.

Cinclocerthia GRAY, List Gen. Bds. p. 17 (1840).

Cinclocerthia ruficauda (GOULD).

Stenorhynchus ruficaudus GOULD, P. Z. S. 1835, p. 186.

Cinclocerthia ruficauda GRAY, List Gen. Bds. p. 17 (1840).—SCL. Cat.

Am. Bds. p. 7 (1862).—LAWR. PR. U. S. NAT. MUS. I, p. 486 (1878).

—SHARPE, Cat. Bds. Brit. Mus. VI, p. 320 (1881).—CORY, List Bds. W. I. p. 6 (1885).

Ramphocinclus tremulus LAFR. Rev. Zool. 1843, p. 67.—SCL. P. Z. S. 1855, p. 213.

Herminierius guadeloupensis LESS. Rev. Zool. 1843, p. 325.

Herminierius infaustus LESS. t. c. p. 325.

Thriothorus l'herminieri LESS. t. c. p. 326.

Formicarius tremulus GRAY, Gen. Bds. I, p. 211 (1844).

SP. CHAR. *Male*:—Above ashy brown, shading into rufous brown on the back and rump; lores and ear-coverts dark brown; a patch in front of the eye brownish black; chin and throat very pale brown, becoming reddish brown on the belly; tail rufous brown; quills dark brown, edged with rufous brown.

The sexes are apparently similar.

Length (skin), 9.30; wing, 4; tail, 3.70; tarsus, 1; bill, 1.30.

HABITAT. Guadeloupe and Dominica.

Cinclocerthia macrorhyncha SCL.

Cinclocerthia macrorhyncha SCL. P. Z. S. 1866, p. 320; ib. 1871, p. 268.—

GRAY, Handl. Bds. I, p. 263 (1869).—SCL. & SALV. Nom. Avium Neot. p. 2 (1873).—ALLEN, Bull. Nutt. Orn. Club, V, p. 166 (1880).

—SHARPE, Cat. Bds. Brit. Mus. VI, p. 325 (1881).—CORY, List Bds. W. I. p. 6 (1885).

SP. CHAR. *Male*:—General plumage above ashy; forehead dark brown; feathers in front of the eye, including lores and ear-coverts dark brown; throat dull white, shading into ashy on the breast, and

showing a tinge of rufous on the sides and under tail-coverts; the rufous slightly perceptible on the abdomen, varying in different specimens; wings dull brown, the coverts ashy; tail brown, an olive tinge on the upper surface; legs greenish; iris dull yellow.

The sexes are similar.

Length (skin), 9.30; wing, 4.20; tail, 3.20; tarsus, 1.20; bill, 1.35.

HABITAT. Santa Lucia.

Cinclocerthia gutturalis (LAFR.).

Ramphocinclus gutturalis LAFR. Rev. Zool. 1843, p. 67.—BP. Conspl. I, p. 223 (1850).

Formicarius gutturalis GRAY, Gen. Bds. I, p. 211 (1844).

Campylorhynchus gutturalis GRAY, Gen. Bds. III, App. p. 7 (1849).

Cinclocerthia gutturalis SCL. P. Z. S. 1855, p. 214.—GRAY, Handl. Bds.

I, p. 263 (1869).—SCL. & SALV. Nom. Avium Neotr. p. 2 (1873).—

LAWR. Pr. U. S. Nat. Mus. II, p. 351 (1879).—SHARPE, Cat. Bds.

Brit. Mus. VI, p. 324 (1881).—CORY, List Bds. W. I. p. 6 (1885).

SP. CHAR. *Male*:—Upper parts brown, darkest on the head; underparts dull brownish white, the white showing clearest on the throat and belly, but never entirely free from a grayish tinge; wings and tail brown; bill and feet dark brown; iris gray.

The sexes are similar.

Length (skin), 9.25; wing, 4.50; tail, 4; tarsus, 1.25.

It is possible that at some seasons the under surface may be differently colored, but in all the specimens before me, the underparts are marked with a dull mixture of brown and white.

HABITAT. Martinique.

GENUS *Galeoscoptes* CABAN.

Galeoscoptes CABANIS, Mus. Hein. I, p. 82 (1850).

Galeoscoptes carolinensis (Linn.).

Muscicapa carolinensis LINN. Syst. Nat. I, p. 328 (1766).

Turdus carolinensis LICHT.—D'ORB. in La Sagra's Hist. Nat. Cuba, Ois. p. 51 (1840).—GUNDL. J. f. O. 1861, p. 324 (Cuba).

Galeoscoptes carolinensis CAB. Mus. Hein. I, p. 82 (1850).—GUNDL. Repert. Fisico-Nat. Cuba, I, p. 230 (1865); ib. J. f. O. 1872, p. 407 (Cuba).—CORY, List Bds. W. I. p. 6 (1885).

Mimus carolinensis BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 307 (1860) (Cuba).—CORY, Bds. Bahama I. p. 51 (1880).

Mimus (*Galeoscoptes*) *carolinensis* BRYANT, Pr. Bost. Soc. Nat. Hist. XI, p. 69 (1867).

Occasional in the Bahama Islands and Cuba.

GENUS **Mimus** BOIE.

Mimus BOIE, Isis, 1826, p. 972.

Mimus polyglottus (LINN.).

Turdus polyglottus LINN. Syst. Nat. I, p. 293 (1766).

Orpheus polyglottus D'ORB. in La Sagra's Hist. Nat. Cuba, Ois. p. 53 (1840).

Mimus polyglottus BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 307 (1860).—GUNDL. Repert. Fisico-Nat. Cuba, I, p. 230 (1865) (Cuba); *ib.* J. f. O. 1872, p. 408 (Cuba).—CORY, List Bds. W. I. p. 6 (1885).

Cuban specimens of this bird are very rare. A specimen in my collection is labelled, in the handwriting of Dr. Gundlach, *Mimus polyglottus cubensis*. It is apparently *M. elegans*, although somewhat larger, and may represent a new race. Perhaps both species are represented there, as I have seen specimens of *polyglottus* labelled "Cuba."

Mimus orpheus (LINN.).

Turdus orpheus LINN. Syst. Nat. I, p. 293 (1766).—VIEILL. Ois. Am. Sept. II, p. 12, pl. 68 (1807).—GOSSE, Bds. Jam. p. 144 (1847).

Mimus orpheus GRAY, Gen. Bds. I, p. 221 (1844).—BP. Conspl. I, p. 276 (1850).—MARCH, Pr. Acad. Nat. Sci. Phila. 1863, p. 290.—BAIRD, Rev. Am. Bds. p. 50 (1864).—SCL. & SALV. Nom. Avium Neot. p. 3 (1873).—A. & E. NEWTON, Handb. Jamaica, p. 105 (1881).—SHARPE, Cat. Bds. Brit. Mus. VI, p. 340 (1881).—CORY, List Bds. W. I. p. 6 (1885).

Mimus polyglottus GOSSE, Bds. Jam. p. 144 (1847).—ALBRECHT, J. f. O. 1862, pp. 194, 201.—HILL, Pr. Acad. Nat. Sci. Phila. 1863, p. 304.—GUNDL. Anal. Soc. Esp. Hist. Nat. VII, p. 173 (1878).

Mimus polyglottus var. *portoricensis* BRYANT, Pr. Bost. Soc. Nat. Hist. XI, p. 68 (1866).

Mimus polyglottus var. *cubanensis* BRYANT, *l. c.* p. 68.

Sp. CHAR.—Above grayish brown, showing ashy on the back; underparts white, showing a tinge of ash on the breast; wings brown, primaries heavily marked with white, the eighth and ninth almost entirely white; tail dark brown, outer feather entirely white, second nearly so, showing a brownish line on outer web more or less distinct, third feather having outer web brown, inner web white; bill black; legs brownish.

Length, 9.50; wing, 4.30; tail, 5; tarsus, 1.20.

HABITAT. Jamaica.

Mimus elegans SHARPE.

Mimus polyglottus (var. *bahamensis*) BRYANT, Pr. Bost. Soc. Nat. Hist.

XI, p. 68 (1866).—GRAY, Handl. Bds. I, p. 261 (1869).

Mimus orpheus var. *dominicus* CORY, Bds. Bahama I, p. 48 (1880).

Mimus elegans SHARPE, Cat. Bds. Brit. Mus. VI, p. 339 (1881).—CORY, List Bds. W. I. p. 6 (1885).

SP. CHAR. *Male*:—Above grayish brown, showing ashy on the back; underparts white, slightly tinged with ashy on the breast; wings brown; all of the primaries heavily marked with, and the eighth and ninth almost entirely white; tail brown, having the first two and entire inner web of third feathers white; bill black; legs brownish.

The sexes are similar.

Length, 8.50; wing, 4; tail, 4.20; tarsus, 1.20; bill, .64.

HABITAT. Inagua, Bahama Islands.

Mimus dominicus (LINN.).

Turdus dominicus LINN. Syst. Nat. I, p. 295 (1766).

Turdus merle MÜLL. Syst. Nat. Anhang, p. 139 (1766).

Mimus dominicus GRAY, Gen. Bds. I, p. 221 (1844).—BP. Consp. I, p. 276 (1850).—SCL. P. Z. S. 1859, p. 341.—GRAY, Handl. Bds. I, p. 262 (1869).—SHARPE, Cat. Bds. Brit. Mus. VI, p. 341 (1881).—CORY, Bds. Haiti & San Domingo, p. 21 (1885); *ib.* List Bds. W. I. p. 6 (1885).

Mimus polyglottus var. *dominicus* BRYANT, Pr. Bost. Soc. Nat. Hist. XI, p. 63 (1866).

Mimus orpheus dominicus CORY, Bull. Nutt. Orn. Club, VI, p. 151 (1881).

SP. CHAR. *Male*:—Above grayish brown, showing ashy on the back; underparts white, slightly tinged with ashy on the breast; wings brown; all of the primaries heavily marked with, and the eighth and ninth almost entirely white; tail dark brown, having the first two and inner web of third feathers white; bill black; legs brownish.

Sexes are similar.

Length, 8.50; wing, 4; tail, 4.18; tarsus, 1.20; bill, .64.

HABITAT. Haiti and San Domingo.

This species is very closely allied to *M. orpheus*, and perhaps should not be separated from it.

Mimus gilvus (VIEILL.).

Turdus gilvus VIEILL. Ois. Am. Sept. II, p. 15 (1807).

Mimus gilvus JARD. Ann. Nat. Hist. 2nd ser. XX, p. 329 (1847).—BP.

Consp. I, p. 276 (1850).—SCL. P. Z. S. 1859, p. 342.—SCL. & SALV. Nom. Avium Neotr. p. 3 (1873).—LAWR. Pr. U. S. Nat. Mus. I, p. 187 (1878).—ALLEN, Bull. Nutt. Orn. Club, V, p. 166 (1880).—SHARPE, Cat. Bds. Brit. Mus. VI, p. 350 (1881).—RIDGW. Pr. U. S. Nat. Mus. VII, p. 172 (1884).—CORY, List Bds. W. I. p. 6 (1885).

Mimus melanopterus LAWR. Ann. Lyc. N. Y. V, p. 35, pl. 2 (1849).—SCL. Cat. Am. Bds. p. 9 (1862).—FINSCH, P. Z. S. 1870, p. 553.

Mimus columbianus CAB. Mus. Hein. I, p. 82 (1850).

Mimus gracilis CAB. Mus. Hein. I, p. 83 (1850).—BAIRD, Rev. Am. Bds. p. 54 (1864).—LAWR. Ann. Lyc. N. Y. IX, p. 91 (1868).

SP. CHAR.—Above grayish brown, ashy on the rump and forehead; underparts dull ashy white; flanks streaked slightly with brownish, wings brown, edged with dull white; under wing-coverts marked with brown; tail dark brown, all the feathers tipped with white, central feathers very slightly, sometimes apparently not at all, the white increasing to the outer feathers, which show a patch of white on tip of inner web, about three quarters of an inch in length, extending to a less extent to the outer web; bill and feet black.

Length (skin), 8.75; wing, 4.45; tail, 4; tarsus, 1.25.

Common in St. Vincent, Grenada, Santa Lucia, and St. Thomas.

Mimus gundlachi CABAN.

Mimus gundlachi CAB. J. f. O. 1855, p. 470.—SCL. P. Z. S. 1859, p. 342.—BAIRD, Rev. Am. Bds. p. 59 (1864).—BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 307 (1860).—GUNDL. Repert. Fisico-Nat. Cuba, I, p. 230 (1865).—SHARPE, Cat. Bds. Brit. Mus. VI, p. 344 (1881).—CORY, List Bds. W. I. p. 6 (1885).

Mimus bahamensis BRYANT, Pr. Bost. Soc. Nat. Hist. VII, p. 114 (1859).—BAIRD, Rev. Am. Bds. p. 52 (1864).—CORY, Bds. Bahama I, p. 48 (1880); *ib.* List Bds. W. I. p. 6 (1885).—SHARPE, Cat. Bds. Brit. Mus. VI, p. 334 (1881).

Scotiomimus bahamensis BRYANT, Pr. Bost. Soc. Nat. Hist. XI, p. 68 (1866).—GRAY, Handl. Bds. I, p. 262 (1869).

Mimus gundlachii GRAY, Handl. Bds. I, p. 262 (1869).—GUNDL. J. f. O. 1872, p. 409.

SP. CHAR. *Male*:—Much larger than *M. polyglottus*, and the white tail-feathers wanting. Above pale rufous brown, the rufous tint most marked on the rump and upper tail-coverts; below pale ash, streaked with fine lines of brown, becoming broader upon the sides; wings rufous brown, feathers slightly edged with pale rufous; wing-coverts tipped with white, forming two narrow bars; tail

dark brown, slightly tipped with dull white, wanting on the two middle feathers; legs bluish black; bill black; iris yellow.

The female resembles the male.

Length, about 11; wing, 5; tail, 5; tarsus, 1.60; bill, .90.

HABITAT. Bahama Islands and Cuba.

After a careful examination and comparison of a series of twenty-two of the so-called *M. bahamensis* and three specimens of *M. gundlachi*, I can not find any difference sufficient to characterize them as distinct species. One specimen from Cuba has more white on the tail-feathers than any from the Bahama Islands, but some of the latter show the white fully as much as the other Cuban examples. A large series from Cuba would determine the matter more satisfactorily.

***Mimus hillii* MARCH.**

Mimus hillii MARCH, Pr. Acad. Nat. Sci. Phila. 1863, p. 291.—BAIRD, Rev. Am. Bds. p. 52 (1864).—GRAY, Handl. Bds. I, p. 262 (1869).—SCL. & SALV. Nom. Avium Neotr. p. 3 (1873).—SHARPE, Cat. Bds. Brit. Mus. VI, p. 343 (1881).—CORY, List Bds. W. I. p. 6 (1885).

Mimus orpheus HILL, Pr. Acad. Nat. Sci. Phila. 1863, p. 304.—GRAY, Handl. Bds. I, p. 262 (1869).

Mimus hillii A. & E. NEWTON, Handb. Jamaica, p. 105 (1881).

SP. CHAR.—General appearance the same as that of *M. gundlachi*, differing from it by being slightly browner on the head, and somewhat paler on the underparts, with more white on the end of the tail-feathers.

Length (skin), 11.20; wing, 5; tail, 5.75; tarsus, 1.55.

HABITAT. Jamaica.

Very closely allied to *M. gundlachi*, and perhaps ought not to be separated from it.

FAMILY SYLVIIDÆ.

GENUS *Polioptila* SCL.

Polioptila SCLATER, P. Z. S. 1855, p. 11.

***Polioptila lembeyi* (GUNDL.).**

Culicivora lembeyi GUNDL. Ann. N. Y. Lyc. 1858, p. 273.—BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 306 (1860).—ALBRECHT, J. f. O. 1861, p. 214.

Polioptila lembeyii BAIRD, Rev. Am. Bds. p. 68 (1864).

Polioptila lembeyei GUNDL. Repert. Fisico-Nat. Cuba, I, p. 231 (1865); *ib.* J. f. O. 1872, p. 410.—GRAY, Handl. Bds. I, p. 237 (1869).

Polioptila lembeyi BD. BWR. & RIDGW. Hist. N. Am. Bds. I, p. 78 (1874).—CORY, List Bds. W. I. p. 6 (1885).—SHARPE, Cat. Bds. Brit. Mus. X, p. 444 (1885).

SP. CHAR.—A narrow black line commences at the top of the eye, extending backwards, bordering the ear-coverts; above bluish gray; underparts ashy white, the white clearest on the abdomen; tail-feathers narrow and long, having the shafts dark brown, outer feather white, except the basal half of inner web, which is dark brown, second having the terminal third white and outer web narrowly tipped with white, third feather tipped with white, rest of tail-feathers brownish black; wings brownish black, the feathers edged with white, no white on the edges of the first two primaries.

Length (skin), 4.58; wing, 1.50; tail, 2; tarsus, .70; bill, .35.

HABITAT. Cuba.

Polioptila cærulea (LINN.).

Motacilla cærulea LINN. Syst. Nat. I, p. 337 (1766).

Culicivora cærulea D'ORB. in La Sagra's Hist. Nat. Cuba, Ois. p. 90 (1840).—BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 306 (1860) (Cuba).—GUNDL. J. f. O. 1861, p. 407 (Cuba).

Polioptila cærulea GUNDL. J. f. O. 1861, p. 324; *ib.* 1872, p. 409.—CORY, Bds. Bahama I. p. 52 (1880); *ib.* List Bds. W. I. p. 6 (1883).

Common in the Bahama Islands; breeds. Numerous records from Cuba.

FAMILY TROGLODYTIIDÆ.

GENUS *Thryothorus* VIEILL.

Thryothorus VIEILLOT, Analyse, p. 45 (1816).

Thryothorus martinicensis SCL.

Thryothorus martinicensis SCL. P. Z. S. 1866, p. 321.—SCL. & SALV. Nom.

Avium Neotr. p. 7 (1873).—LAWR. Pr. U. S. Nat. Mus. I, p. 352 (1878).—SHARPE, Cat. Bds. Brit. Mus. VI, p. 228 (1881).—CORY, List Bds. W. I. p. 7 (1885).

Hylemothrus martinicensis GRAY, Handl. Bds. I, p. 191 (1869).

SP. CHAR. *Male*:—Upper parts dark brown, very narrowly lined on the back; feathers of the wings and tail banded with narrow lines; under surface pale rufous brown. Resembles *T. grenadensis*, but is darker.

The sexes are similar.

Length (skin), 5; wing, 2.15; tail, 2.10; tarsus, .80; bill, .10.

HABITAT. Martinique.

Thryothorus rufescens LAWRIE.

Thryothorus rufescens LAWRIE. Ann. N. Y. Acad. Sci. I, p. 47 (1878); *ib.* Pr. U. S. Nat. Mus. I, p. 486 (1878).—SHARPE, Cat. Bds. Brit. Mus. VI, p. 228 (1881).—CORY, List Bds. W. I. p. 7 (1885).

“*Male*. Entire plumage rufous, much deeper in color above, of a lighter and brighter shade underneath; tail dark rufous, regularly and closely crossed with narrow bars of black; the coloring of the underpart of the tail is duller, but is barred in a similar manner; inner webs of quills blackish brown, outer webs and both webs of the innermost secondaries dark rufous, with distinct narrow bars of black; upper mandible dark brown, the under yellowish-white; feet pale brown.

Length, 4½ in.; wing, 2½; tail, 1½; tarsus, 11-16; bill from front 9-16; from rictus 3.” (LAWRIE, orig. descr.)

HABITAT. Dominica and Guadeloupe.

Thryothorus musicus LAWRIE.

Thryothorus musicus LAWRIE. Ann. N. Y. Acad. Sci. I, p. 148 (1878); *ib.* Pr. U. S. Nat. Mus. I, p. 486 (1878).—SHARPE, Cat. Bds. Brit. Mus. VI, p. 223 (1881).—CORY, List Bds. W. I. p. 7 (1885).

“*Male*. Above of a dark ferruginous, somewhat darker on the crown and brighter on the rump; lores, and a line running back from the eye, white tinged with rufous; the exposed portions of the wings are dark rufous, conspicuously barred with black; the inner webs of the primaries are blackish-brown; under wing-coverts white; the tail-feathers are dark rufous, barred with black; the entire back and upper tail-coverts are marked inconspicuously with narrow transverse dusky lines; the feathers of the rump have concealed white shaft-stripes, which become wider towards the ends of the feathers; the feathers of the back also have the basal portion of their shafts marked with white; the throat, breast, and middle of the abdomen are white, the latter tinged with rufous; the sides are light ferruginous; the under tail-coverts are rufous, each feather marked with a subterminal round black spot; upper mandible, black; the under

whitish, with the end dusky; tarsi and toes light brownish flesh color.

"Length (fresh), 5½ in.; wing 2½; tail 1 13-16; tarsus ¾." (LAWR., orig. descr.)

HABITAT. St. Vincent.

Thryothorus grenadensis LAWR.

Thryothorus grenadensis LAWR. Ann. N. Y. Acad. Sci. I, p. 161 (1878); *ib.* Pr. U. S. Nat. Mus. I, p. 486 (1878).—SHARPE, Cat. Bds. Brit. Mus. VI, p. 228 (1881).—CORY, List Bds. W. I. p. 7 (1885).

"Female. Upper plumage of a rather bright ferruginous, a little inclining to brownish on the head and hind neck, and brighter on the rump; lores whitish tinged with rufous; a light rufous stripe extends over the eye to the hind neck; tail dull rufous, barred with black; the primary quills have their outer webs of a dull light rufous, with broad black bars; the inner webs are brownish-black; the wing-coverts and tertials are rufous with narrower black bars; under wing-coverts pale rufous; the throat is very pale rufous, inclining to whitish; the breast light rufous; the middle of the abdomen is of a rather paler shade; the sides and under tail-coverts are of a bright darker ferruginous; the upper mandible brownish-black; the under pale yellow, dusky at the tip; tarsi and toes hazel brown.

"Length (fresh), 4½ inches; wing 2½; tail 1 ½; tarsus ¾; bill from front, 11-:6." (LAWR. orig. descr.)

HABITAT. Grenada.

Thryothorus mesoleucus SCL.

Thryothorus mesoleucus SCL. P. Z. S. 1876, p. 14.—ALLEN, Bull. Nutt. Orn. Club, V, p. 166 (1880).—SHARPE, Cat. Bds. Brit. Mus. VI, p. 223 (1881).—CORY, List Bds. W. I. p. 7 (1885).

SP. CHAR.—Top of head brown, the feathers delicately edged with lighter brown, giving a faint mottled appearance to the crown; back rufous brown, the rufous showing brightest on the rump; wings and tail brown delicately banded with brownish black; sides of the head and neck buff, shading into buffy white on the throat and breast; abdomen and crissum pale rufous; bill pale.

Length (skin), 4.05; wing, 1.95; tail, 1.50; tarsus, .70; bill, .80.

HABITAT. Santa Lucia.

FAMILY MNIOTILTIDÆ.

GENUS **Mniotilta** VIEILL.

Mniotilta VIEILLOT, Analyse, p. 45 (1816).

Mniotilta varia (LINN.).

Motacilla varia LINN. Syst. Nat. I, p. 333 (1766).

Mniotilta varia GOSSE, Bds. Jam. p. 134 (1847).—LEMB. Aves Cuba, p. 68 (1850).—GUNDL. J. f. O. 1855, p. 475; *ib.* Repert. Fisico-Nat. Cuba, I, p. 232 (1865) (Cuba).—BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 306 (1860) (Cuba).—ALBRECHT, J. f. O. 1862, p. 193 (Jamaica).—A. & E. NEWTON, Ibis, 1859, p. 143 (St. Croix).—BRYANT, Pr. Bost. Soc. Nat. Hist. VII, p. 110 (1859) (Bahamas).—SCL. P. Z. S. 1861, p. 70 (Jamaica).—MARCH, Pr. Acad. Nat. Sci. Phila. 1863, p. 293 (Jamaica).—GUNDL. Anal. Soc. Esp. Hist. Nat. VII, p. 177 (1878) (Porto Rico).—CORY, Bds. Bahama I. p. 54 (1880); *ib.* Bds. Haiti & San Domingo, p. 23 (1885).—A. & E. NEWTON, Handb. Jamaica, p. 105 (1881).

Sylvicola (Mniotilta) varia BRYANT, Pr. Bost. Soc. Nat. Hist. XI, p. 91 (1867) (San Domingo).

Bahama Islands and Greater Antilles. Recorded also from the Lesser Antilles.

GENUS **Compsothlypis** CAB.

Compsothlypis CABANIS, Mus. Hein. I, p. 20 (1851).

Compsothlypis americana (LINN.).

Parus americanus LINN. Syst. Nat. I, p. 190 (1766).

Sylvia americana D'ORB. in La Sagra's Hist. Nat. Cuba, Ois. p. 69 (1840).—A. & E. NEWTON, Ibis, 1859, p. 143 (St. Croix).

Parula americana GOSSE, Bds. Jam. p. 154 (1847).—CASS. Proc. Acad. Nat. Sci. Phila. 1860, p. 376 (St. Thomas).—GUNDL. J. f. O. 1861, p. 326 (Cuba); *ib.* 1872, p. 411 (Cuba).—ALBRECHT, J. f. O. 1862, p. 192 (Jamaica).—MARCH, Pr. Acad. Nat. Sci. Phila. 1863, p. 293 (Jamaica).—GUNDL. Anal. Soc. Esp. Hist. Nat. VII, p. 176 (1878) (Porto Rico).—CORY, Bds. Bahama I. p. 55 (1880); *ib.* Bull. Nutt. Orn. Club, VI, p. 151 (1881) (San Domingo); *ib.* Bds. Haiti & San Domingo, p. 24 (1885).

Bahamas and Greater Antilles; recorded from some of the Lesser Antilles.

GENUS **Protonotaria** BAIRD.

Protonotaria BAIRD, Bds. N. Am. p. 239 (1858).

Protonotaria citrea (BODD.).

Motacilla citrea BODD. Tab. pl. 704 (1783).

Protonotaria citrea GUNDL. J. f. O. 1861, p. 324; *ib.* 1862, p. 178; *ib.* 1872, p. 411; *ib.* Report. Fisico-Nat. Cuba, I, p. 231 (1865) (Cuba).—BAIRD, Rev. Am. Bds. p. 173 (1864).—CORY, List Bds. W. I. p. 7 (1885).

Accidental in Cuba.

GENUS **Helmitherus** RAF.

Helmitherus RAFINESQUE, Journ de Phys. LXXXVIII, p. 417 (1819).

Helmitherus vermivorus (GMEL.).

Motacilla vermivora GMEL. Syst. Nat. I, p. 95 (1788).

Vermivora pennsylvanica GOSSE, Bds. Jam. p. 150 (1847).—ALBRECHT, J. f. O. 1862, pp. 194, 201 (Jamaica).—MARCH, Pr. Acad. Nat. Sci. Phila. 1863, p. 293 (Jamaica).

Helinaia vermivorus LEMB. Aves Cuba, p. 35 (1850).

Helmitheros vermivorus GUNDL. J. f. O. 1855, p. 476; *ib.* 1861, pp. 326, 409 (Cuba).

Helinaia vermivora BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 307 (1860), (Cuba).

Helmitherus vermivorus GUNDL. Report. Fisico-Nat. Cuba, I, p. 232 (1865); *ib.* J. f. O. 1872, p. 412 (Cuba).—CORY, List Bds. W. I. p. 7 (1885).

Helminthotherus vermivorus A. & E. NEWTON, Handb. Jamaica, p. 105 (1881).

Recorded from Cuba and Jamaica.

Helmitherus swainsoni AUD.

Sylvia swainsoni AUD. Orn. Biog. II, p. 563 (1834).

Helmitherus swainsoni BAIRD, Rev. Am. Bds. p. 180 (1864).—GUNDL. Report. Fisico-Nat. Cuba, I, p. 232 (1865); *ib.* J. f. O. 1872, p. 412 (Cuba).—CORY, List Bds. W. I. p. 7 (1885).

Helonaea swainsoni NEWTON, P. Z. S. 1879, p. 552 (Jamaica).

Helminthotherus swainsoni A. & E. NEWTON, Handb. Jamaica, p. 105 (1881).

Helinaia swainsoni MERRIAM, Auk, II, p. 377 (1885) (Jamaica).

Recorded from Cuba and Jamaica.

GENUS **Helminthophila** RIDGW.

Helminthophila RIDGWAY, Bull. Nutt. Orn. Club, VII, p. 53 (1882).

Helminthophila chrysoptera (LINN.).

Motacilla chrysoptera LINN. Syst. Nat. I, p. 333 (1766).

Helinaia chrysoptera BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 307 (1860) (Cuba).

Helminthophaga chrysoptera GUNDL. J. f. O. 1861, p. 326; *ib.* 1862, p. 177; *ib.* 1872, p. 411; *ib.* Repert. Fisico-Nat. Cuba, I, p. 232 (1865) (Cuba).—CORY, List Bds. W. I. p. 7 (1885).

Accidental in Cuba.

Helminthophila bachmani (AUD.).

Sylvia bachmani AUD. Orn. Biog. II, p. 483 (1834).

Helinaia bachmanii LEMB. Aves Cuba, p. 36 (1850).

Helminthophaga bachmani "CAB." GUNDL. J. f. O. 1885, p. 475; *ib.* 1861, pp. 326, 409; *ib.* Repert. Fisico-Nat. Cuba, I, p. 232 (1865) (Cuba).—CORY, List Bds. W. I. p. 7 (1885).

Helinaia bachmani BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 307 (1860) (Cuba).

Accidental in Cuba.

Helminthophila peregrina (WILS.).

Sylvia peregrina WILS. Am. Orn. IV, p. 83 (1811).

Helinaia peregrina BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 307 (1860) (Cuba).

Helminthophaga peregrina GUNDL. J. f. O. 1861, p. 326; *ib.* 1862, p. 177; *ib.* 1872, p. 412; *ib.* Repert. Fisico-Nat. Cuba, I, p. 232 (1865) (Cuba).—CORY, List Bds. W. I. p. 7 (1885).

Accidental in Cuba. Bahama Islands? A specimen in my cabinet is labelled "Bahama I." ; the collector is unknown.

GENUS **Dendroica** GRAY.

Dendroica GRAY, Gen. Bds. App. 8 (1842).

Dendroica tigrina (GMEL.).

Motacilla tigrina GMEL. Syst. Nat. I, p. 985 (1788).

Sylvia maritima D'ORB. in La Sagra's Hist. Nat. Cuba, Ois. p. 70 (1840).

Certhiola maritima GOSSE, Bds. Jam. p. 87 (1847).

Rhimamphus maritimus GUNDL. J. f. O. 1855, p. 474; *ib.* 1861, p. 409 (Cuba).

Sylvicola maritima BRYANT, Pr. Bost. Soc. Nat. Hist. VII, p. 110 (1859) (Bahamas).—BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 307 (1860) (Cuba).

Dendracca tigrina A. & E. NEWTON, Ibis, 1859, p. 144 (St. Croix).—SCL. P. Z. S. 1861, p. 71 (Jamaica).—ALBRECHT, J. f. O. 1862, p. 193 (Jamaica).—CORY, Bds. Bahama I. p. 63 (1880); *ib.* Bull. Nutt. Orn. Club, VI, p. 151 (1881); *ib.* Bds. Haiti & San Domingo, p. 25 (1885).

Dendroica trigrina GUNDL. J. f. O. 1861, p. 326 (Cuba).—MARCH, Pr. Acad. Nat. Sci. Phila. 1863, p. 293 (Jamaica).

Perissoglossa tigrina GUNDL. Repert. Fisico-Nat. Cuba, I, p. 233 (1865); *ib.* J. f. O. 1872, p. 412 (Cuba); *ib.* Anal. Soc. Esp. Hist. Nat. VII, p. 178 (1878) (Porto Rico).—CORY, List Bds. W. I. p. 7 (1885).

Recorded from Bahama Islands, Greater Antilles, and St. Croix.

Dendroica aestiva (GMEL.).

Motacilla aestiva GMEL. Syst. Nat. I, p. 996 (1788).

Rhimamphus aestivus Bp.? GUNDL. J. f. O. 1855, p. 472 (Cuba)?—CAB. J. f. O. 1860, p. 326 (Cuba).

Sylvicola aestiva? BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 307 (1860) (Cuba)?—FINSCH, P. Z. S. 1870, p. 564 (Trinidad).

Dendracca aestiva? TAYLOR, Ibis, 1864, p. 81 (Trinidad).—CORY, Bds. Bahama, I. p. 56 (1880).

Cuba? and the Bahama Islands?

It is doubtful if *D. aestiva* occurs in the West Indies, as in some plumages it is difficult to distinguish from the closely allied forms which occur there.

Dendroica petechia (LINN.).

Motacilla petechia LINN. Syst. Nat. I, p. 334 (1766).

Sylvia petechia LATH. Gen. Syn. II, p. 535 (1790).—VIEILL. Ois. Am. Sept. II, p. 32, (1807).

Sylvicola aestiva GOSSE, Bds. Jam. p. 157 (1847).

Dendracca aestiva A. & E. NEWTON, Ibis, 1859, p. 143.

Dendracca petechia SCL. Cat. Am. Bds. p. 32 (1862).—ALBRECHT, J. f. O. 1862, p. 193.—GRAY, Handl. Bds. I, p. 240 (1869).—SCL. & SALV. Nom. Avium Neotr. p. 9 (1873).—GUNDL. Anal. Soc. Esp. Hist. Nat. VII, p. 182 (1878).—CORY, Bds. Bahama I. p. 57 (1880); *ib.* List Bds. W. I. p. 8 (1885).—A. & E. NEWTON, Handb. Jamaica, p.

106 (1881).—RIDGW. Pr. U. S. Nat. Mus. VII, p. 172 (1884).—COUES, Key N. Am. Bds. p. 297 (1884).—SHARPE, Cat. Bds. Brit. Mus. X, p. 277 (1885).

Sylvicola petechia BRYANT, Pr. Bost. Soc. Nat. Hist. XI, p. 67 (1867).

Dendroica petechia e. *jamaicensis* SUND. Oefv. K. Vet. Akad. Förh. 1869, p. 607.

Dendroica petechia CASSIN, Pr. Acad. Nat. Sci. Phila. 1860, pp. 192, 376.—MARCH, Pr. Acad. Nat. Sci. Phila. 1863, p. 292.—BAIRD, Rev. Am. Bds. p. 199 (1864).—BD. BWR. & RIDGW. Hist. N. Am. Bds. I, p. 216 (1874).

SP. CHAR. Male:—Underparts bright yellow, streaked with dull rufous on the breast and sides; forehead yellowish, shading into olive green on the top of the head; a tinge of rufous on the concealed portions of the feathers on the forehead; back olive green; wings and tail brown, edged with yellowish; under surface of tail having the appearance of bright yellow, the feathers tipped with olive green; the upper surface of tail-feathers having the inner webs yellow.

Female:—Somewhat greener than the male; more yellow on the rump and tail-coverts; no rufous on the head.

Length (skin), 4.50; wing, 2.50; tail, 1.60; tarsus, .74.

HABITAT. Jamaica. Accidental in the Bahama Islands.

Dendroica petechia gundlachi.

(?) *Motacilla albicollis* GMEL. Syst. Nat. I, p. 983 (1788).

Rhimamphus aestivus CAB. J. f. O. 1855, p. 472.

Sylvicola petechia BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 307 (1860).

Dendroica albicollis CASSIN, Pr. Acad. Nat. Sci. 1860, p. 192.—LAWR. Ann. N. Y. Lyc. 1860, p. 18.—GUNDL. J. f. O. 1861, p. 326.

Dendroica gundlachi BAIRD, Rev. Am. Bds. p. 197 (1864).—GUNDL. J. f. O. 1872, p. 414.

Dendroica gundlachi GUNDL. Repert. Fisico-Nat. Cuba, I, p. 234 (1865).—GRAY, Handl. Bds. I, p. 241 (1869).—SHARPE, Cat. Bds. Brit. Mus. X, p. 278 (1885).

Dendræca petechia d. *cubana* SUND. Oefv. K. Vet. Akad. Förh. 1869, p. 608.

Dendroica petechia var. *gundlachi* BD. BWR. & RIDGW. Hist. N. Am. Bds. I, p. 216 (1874).

Dendræca petechia var. *gundlachi* CORY, Bds. Bahama I. p. 58 (1880).

Dendræca petechia *gundlachi* COUES, Bds. Colo. Vall. p. 255 (1878).—CORY, List Bds. W. I. p. 8 (1885).

SP. CHAR. Male:—Lower part of throat streaked; above yellowish green; crown showing no signs of rufous, or only a faint tinge; feathers yellowish, brighter towards the bill.

Female—Similar to the male, but somewhat paler, and showing less yellow on the tail.

Length (skin), 4.8; wing, 2.45; tail, 2.15; tarsus, .83.

HABITAT. Cuba. Accidental in the Bahama Islands.

Dendroica petechia ruficapilla.

Motacilla ruficapilla GMEL. Syst. Nat. I, p. 971 (1788).

Sylvicola ruficapilla BP. Conspl. I, p. 307 (1850).

Dendroica ruficapilla BAIRD, Rev. Am. Bds. p. 201 (1864).

Dendræca ruficapilla GRAY, Handl. Bds. I, p. 240 (1869).—SHARPE, Cat. Bds. Brit. Mus. X, p. 275 (1885).

Dendroica petechia var. *ruficapilla* BD. BWR. & RIDGW. Hist. N. Am. Bds. I, p. 217 (1874).

Dendræca petechia var. *ruficapilla* LAWRI. Pr. U. S. Nat. Mus. I, p. 486 (1878).

Dendræca petechia ruficapilla CORY, List Bds. W. I. p. 8 (1885).

Length, 4.75; wing, 2.6; tail, 2.10; tarsus, .82.

This form approaches very closely to *D. petechia*, but lacks the distinct rufous crown. Throat streaked heavily; the under tail-coverts are also streaked; otherwise like *D. petechia*.

HABITAT. Barbuda, Antigua, Porto Rico, and St. Thomas.

Dendroica petechia melanoptera.

Dendræca petechia var. *melanoptera* LAWRI. Pr. U. S. Nat. Mus. I, p. 453 (1878).

Dendræca petechia melanoptera CORY, List Bds. W. I. p. 8 (1885).

Dendræca melanoptera SHARPE, Cat. Bds. Brit. Mus. X, p. 279 (1885).

Length, 4.50; wing, 2.30; tail, 1.85; tarsus, .69.

This form resembles *petechia ruficapilla*, as would be expected, but varies in having the wing-coverts black, and it is somewhat smaller in size; the rufous streaks are narrower and darker. The female lacks the rufous crown and stripes on the under surface.

HABITAT. Guadeloupe and Dominica.

Dendroica capitalis LAWRI.

Dendræca petechia c. *barbadensis* SUND. Oefv. K. Vet. Akad. Förh. 1869, p. 608.

Dendræca capitalis LAWRI. Pr. Acad. Nat. Sci. Phila. 1868, p. 359.—GRAY. Handl. Bds. III, Index, p. 202 (1871).—COUES, Key N. Am. Bds. p.

297 (1884).—CORY, List. Bds. W. I. p. 8 (1885).—SHARPE, Cat. Bds. Brit. Mus. X, p. 280 (1885).

Dendroica capitalis BD. BWR. & RIDGW. Hist. N. Am. Bds. I, p. 271 (1874).

SP. CHAR. *Male*:—Top of the head dark rufous brown, extending to the nape, but not reaching the eye; upperparts greenish yellow; wings and tail brown, edged with yellow; inner webs of the tail-feathers broadly edged with bright yellow; underparts yellow, streaked with rufous brown.

Female:—Entire upper surface olive green; entire under surface pale yellow; tail as in the male.

Length (skin), 4; wing, 2.45; tail, 1.75; tarsus, .75.

HABITAT. Barbadoes.

Dendroica ruficula BAIRD.

Dendroica ruficula BAIRD, Rev. Am. Bds. p. 204 (1864).

Dendroica ruficula GRAY, Handl. Bds. I, p. 241 (1869).—LAWR. Pr. U. S. Nat. Mus. I, p. 486 (1878).—CORY, List Bds. W. I. p. 8 (1885).—SHARPE, Cat. Bds. Brit. Mus. X, p. 285 (1885).

Dendroica vieilloti var. *ruficula* BD. BWR. & RIDGW. Hist. N. Am. Bds. I, p. 217 (1874).

Dendroica vieilloti ruficula COUES, Bds. Colo. Vall. p. 256 (1878).

Dendroica vieilloti (pt.) SALV. & GODM. Biol. Centr. Amer. Aves, I, p. 125 (1880).

SP. CHAR. *Male*:—Head and throat rufous brown; upper parts greenish yellow; wings and tail brown, broadly edged with yellow; underparts bright yellow, streaked with rufous on the breast and flanks; axillaries and under wing-coverts bright yellow.

Length (skin), 5; wing, 2.25; tail, 2; tarsus, .75.

HABITAT. Martinique.

Dendroica eoa (GOSSE).

Sylvicola eoa GOSSE, Bds. Jam. p. 158 (1847).—BP. Conspl. I, p. 309 (1850).—ALBRECHT, J. f. O. 1862, p. 201.

Dendroica eoa SCL. P. Z. S. 1861, p. 71 (?)—GRAY, Handl. Bds. I, p. 240 (1869).—SUND. Oefv. K. Vet. Akad. Förh. 1869, p. 609—A. & E. NEWTON, Handb. Jamaica, p. 106 (1881).—COUES, Key N. Am. Bds. p. 297 (1884).—CORY, List Bds. W. I. p. 8 (1885).—SHARPE, Cat. Bds. Brit. Mus. X, p. 266 (1885).

Dendroica eoa BAIRD, Rev. Am. Bds. p. 195 (1864).—BD. BWR. & RIDGW. Hist. N. Am. Bds. I, p. 218 (1874).

"*Male*:—Upper parts olive, approaching to yellow on the rump; sides of head marked with a band of orange, extending from the ear to the beak, and meeting both on the forehead and on the chin. Wings (quills and coverts) blackish, with yellowish edges. Tail blackish-olive, with yellow edges; the outermost two feathers on each side have the greatest portion of the inner webs pale yellow. Underparts pale yellow. The crown, rump, tertials, belly, and under tail-coverts sparsely marked with undefined spots of pale orange.

"*Female*:—Nearly as in the male, but the deep orange is spread over the whole cheeks, chin, throat, and breast. The head and back are dusky gray, tinged with olive, and patched with the fulvous much more largely, but irregularly, as if *laid* upon the darker hue. Length, 5 inches; expanse, 7.60; wing, 2.70; tail, 1.90; rictus nearly .60; tarsus, .90; middle toe, .50. Iris dark hazel; feet horn-color; beak pale horn; culmen and tip darker." (Gosse, *l. c.*).

HABITAT. Jamaica.

Mr. Sharpe considers *D. eoa* to be a hybrid between *D. blackburniae* and *D. petechia* or *D. aestiva*. The type specimens are in the British Museum.

Dendroica cærulescens (GMEL.).

Motacilla cærulescens GMEL. Syst. Nat. I, p. 960 (1788).

Sylvia cærulescens D'ORB. in La Sagra's Hist. Nat. Cuba, Ois. p. 63 (1840).

Sylvicola pannosa GOSSE, Bds. Jam. p. 162 (1847).

Sylvicola canadensis GOSSE, Bds. Jam. p. 162 (1847).—SALLÉ, P. Z. S. 1857, p. 231 (San Domingo).—BRYANT, Pr. Bost. Soc. Nat. Hist. VII, p. 110 (1859) (Bahamas).—BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 307 (1860) (Cuba).

Rhimamphus canadensis GUNDL. J. f. O. 1855, p. 473; 1861, p. 408 (Cuba).

Dendracca pannosa ALBRECHT, J. f. O. 1862, p. 193 (Jamaica).

Dendroica canadensis GUNDL. J. f. O. 1861, p. 396 (Cuba).—MARCH, Pr. Acad. Nat. Sci. Phila. 1863, p. 293 (1863) (Jamaica).

Dendracca canadensis SCL. P. Z. S. 1861, p. 70 (Jamaica).—ALBRECHT, J. f. O. 1862, p. 193.

Dandroica cærulescens BAIRD, Rev. Am. Bds. p. 186 (1864) (?).—GUNDL. Repert. Fisico-Nat. Cuba, I, p. 233 (1865); *ib.* J. f. O. 1872, p. 413 (Cuba); *ib.* Anal. Soc. Esp. Hist. Nat. VII, p. 179 (1878) (Porto Rico).

Sylvicola (Dendracca) canadensis BRYANT, Pr. Bost. Soc. Nat. Hist. XI, p. 91 (1867).

Dendracca cærulescens CORY, Bds. Bahama I. p. 58 (1880); *ib.* Bull. Nutt. Orn. Club, VI, p. 151 (1881); *ib.* Bds. Haiti & San Domingo, p. 26

(1885); *ib.* List Bds. W. I. p. 8 (1885).—A. & E. NEWTON, Handb. Jamaica, p. 106 (1881).—TRISTRAM, *Ibis*, 1884, p. 168.

Common in the Bahamas and Greater Antilles in winter.

Dendroica coronata (LINN.).

Motacilla coronata LINN. *Syst. Nat.* I, p. 333 (1766).

Sylvia coronata D'ORB in *La Sagra's Hist. Nat. Cuba, Ois.* p. 60 (1840). *Rhimamphus coronatus* GUNDL. *J. f. O.* 1855, p. 473; *ib.* 1861, p. 408 (Cuba).

Sylvicola coronata GOSSE, *Bds. Jam.* p. 155 (1847).—SALLÉ, *P. Z. S.* 1857, p. 231 (San Domingo).—BRYANT, *Pr. Bost. Soc. Nat. Hist.* VII, p. 110, (1859) (Bahamas).—BREWER, *Pr. Bost. Soc. Nat. Hist.* VII, p. 307 (1860) (Cuba).—ALBRECHT, *J. f. O.* 1862, p. 201 (Jamaica).

Dendroica coronatus GUNDL. *J. f. O.* 1861, p. 326 (Cuba).

Dendroica coronata MARCH, *Pr. Acad. Nat. Sci. Phila.* 1863, p. 292 (Jamaica).—GUNDL. *Repert. Fisico-Nat. Cuba, I.* p. 233 (1865) (Cuba); *ib.* *Anal. Soc. Esp. Hist. Nat.* VII, p. 180 (1878) (Porto Rico).

Sylvicola (Dendræca) coronata BRYANT, *Pr. Bost. Soc. Nat. Hist.* XI, p. 91 (1867).

Dendræca coronata CORY, *Bds. Bahama I.* p. 59 (1880); *ib.* *Bull. Nutt. Orn. Club*, VI, p. 151 (1881); *ib.* *Bds. Haiti & San Domingo*, p. 30 (1885); *ib.* *List. Bds. W. I.* p. 8 (1885).—A. & E. NEWTON, *Handb. Jamaica*, p. 109 (1881).

Common in winter in the Bahamas and Greater Antilles.

Dendroica maculosa (GMEL.).

Motacilla maculosa GMEL. *Syst. Nat.* I, p. 984 (1788).

Sylvia maculosa D'ORB in *La Sagra's Hist. Nat. Cuba, Ois.* p. 72 (1840). *Rhimamphus maculosus* GUNDL. *J. f. O.* 1855, p. 474 (Cuba).

Sylvicola maculosa BRYANT, *Pr. Bost. Soc. Nat. Hist.* VII, p. 110 (1859) (Bahamas).—BREWER, *Pr. Bost. Soc. Nat. Hist.* VII, p. 307 (1860) (Cuba).

Dendroica maculosa GUNDL. *J. f. O.* 1861, p. 326; *ib.* 1872, p. 415; *ib.* *Repert. Fisico-Nat. Cuba, I.* p. 234 (1865) (Cuba); *ib.* *Anal. Soc. Esp. Hist. Nat.* VII, p. 183 (1878) (Porto Rico).

Dendræca maculosa CORY, *Bds. Bahama I.* p. 62 (1880); *ib.* *Bds. Haiti & San Domingo*, p. 29 (1885); *ib.* *List Bds. W. I.* p. 8 (1885).

Occasional winter visitant in the Greater Antilles and the Bahama Islands.

Dendroica cærulea (WILS.).*Sylvia cærulea* WILS. Am. Orn. II, p. 141 (1810).*Dendroica cærulea* GUNDL. J. f. O. 1861, p. 326; *ib.* 1872, p. 414; *ib.* Repert. Fisico-Nat. Cuba, I, p. 234 (1865) (Cuba).—BAIRD, Rev. Am. Bds. p. 191 (1864).*Rhimamphus cæruleus* GUNDL. J. f. O. 1862, p. 177 (Cuba).*Dendræca cærulea* CORY, List Bds. W. I. p. 8 (1885).

Cuba. No other West India Record.

Dendroica pennsylvanica (LINN.).*Motacilla pennsylvanica* LINN. Syst. Nat. I, p. 333 (1766).*Sylvicola icterocephala* BRYANT, Pr. Bost. Soc. Nat. Hist. VII, p. 110 (1859) (Bahamas).*Dendroica pennsylvanica* BAIRD, Rev. Am. Bds. p. 191 (1864).*Dendræca pennsylvanica* CORY, Bds. Bahama I. p. 62 (1880); *ib.* List Bds. W. I. p. 8 (1885).

Bahama Islands in winter.

Dendroica striata (FORST.).*Muscicapa striata* "FORSTER, Phil. Trans. LXII, 383."*Sylvia striata* LEMB. Aves Cuba, p. 33 (1850).*Rhimamphus striatus* GUNDL. J. f. O. 1855, p. 475; *ib.* 1861, p. 409 (Cuba).*Sylvicola striata* BRYANT, Pr. Bost. Soc. Nat. Hist. VII, p. 110 (1859) (Bahamas).—BREWER *ib.* p. 307 (Cuba).*Dendroica striatus* GUNDL. J. f. O. 1861, p. 326 (Cuba).*Dendroica striata* GUNDL. Repert. Fisico-Nat. Cuba, I, p. 234 (1865); *ib.* J. f. O. 1872, p. 414 (Cuba); *ib.* Anal. Soc. Esp. Hist. Nat. VII, p. 181 (1878) (Porto Rico).*Dendræca striata* CORY, Bds. Bahama I. p. 61 (1880); *ib.* List Bds. W. I. p. 8 (1885).—A. & E. NEWTON, Handb. Jamaica, p. 106 (1881).

Common in winter in the Bahama Islands. Recorded from Cuba, Porto Rico, and Jamaica.

Dendroica pharetra (GOSSE).*Sylvicola pharetra* GOSSE, Bds. Jam. p. 163 (1857).—BP. Conspl. I, p. 309 (1850).—OSBURN, Zool. 1859, p. 6660.*Dendræca pharetra* SCL. P. Z. S. 1861, p. 71.—ALBRECHT, J. f. O. 1862, p. 193.—GRAY, Handl. Bds. I, p. 241 (1869).—SCL. & SALV. Nom. Avium Neotr. p. 9 (1873).—A. & E. NEWTON, Handb. Jamaica, p. 106 (1881).—COUES, Key N. Am. Bds. p. 297 (1884).—CORY, List Bds. W. I. p. 8 (1885).—SHARPE, Cat. Bds. Brit. Mus. X, p. 332 (1885).

Dendroica pharetra BAIRD, Rev. Am. Bds. p. 192 (1864).—BD. BWR. & RIDGW. Hist. N. Am. Bds. I, p. 220 (1874).

SP. CHAR. Male:—Entire plumage dull white and black, in general appearance resembling *Mniotilla varia* at the first glance. Throat white, the feathers narrowly tipped with black, giving a dotted appearance; the black marking becomes heavier on the breast and belly; top of head heavily streaked with black and white; rump and upper tail coverts olive brown; wings and tail brown, showing a faint olive tinge; under wing-coverts white.

Female:—Similar to the male, but duller in coloration; less black on the under surface; more brown on the lower back, rump and tail.

Length (skin), 4.40; wing, 2.30; tail, 2.05; tarsus, .72.

HABITAT. Jamaica.

Dendroica blackburniae (GMEL.).

Motacilla blackburniae GMEL. Syst. Nat. I, p. 977 (1788).

Sylvicola blackburniae BRYANT, Pr. Bost. Soc. Nat. Hist. VII, p. 110 (1859) (Bahamas).

Dendroica blackburniae BAIRD, Rev. Am. Bds. p. 189 (1864).

Dendreca blackburniae CORY, Bds. Bahama I. p. 60 (1880); *ib.* List Bds. W. I. p. 8 (1885).

Accidental in the Bahama Islands in winter.

Dendroica dominica (LINN.).

Motacilla dominica LINN. Syst. Nat. I, p. 334 (1766).

Sylvia pensilis D'ORB. in La Sagra's Hist. Nat. Cuba, Ois. p. 65 (1840).

Sylvicola pensilis GOSSE, Bds. Jam. p. 156 (1847).—SALLE, P. Z. S. 1857, p. 231 (San Domingo).—BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 307 (1860) (Cuba).—ALBRECHT, J. f. O. 1862, p. 201 (Jamaica).

Rhimumphus pensilis GUNDL. J. f. O. 1885, p. 474; *ib.* 1861, p. 408 (Cuba).

Dendroica superciliosa GUNDL. J. f. O. 1861, p. 326 (Cuba).—MARCH, Pr. Acad. Nat. Sci. Phila. 1863, p. 293 (Jamaica).

Dendroica dominica GUNDL. Repert. Fisico-Nat. Cuba, I, p. 235 (1865); *ib.* J. f. O. 1872, p. 415 (Cuba).—BRACE, Pr. Bost. Soc. Nat. Hist. XIX, p. 240 (1877) (Bahamas).—GUNDL. Anal. Soc. Esp. Hist. Nat. VII, p. 184 (1878) (Porto Rico).

Dendreca dominica CORY, Bds. Bahama I. p. 65 (1880); *ib.* Bds. Haiti & San Domingo, p. 27 (1885); *ib.* List Bds. W. I. p. 8 (1885).—A. & E. NEWTON, Handb. Jamaica, p. 106 (1881).

Common in winter in the Bahamas and Greater Antilles; possibly resident in Jamaica.

Dendroica adelaidæ BAIRD.

Dendroica adelaidæ BAIRD, Rev. Am. Bds. p. 212 (1864).

Sylvicola (Dendroca) adelaidæ BRYANT, Pr. Bost. Soc. Nat. Hist. X, p. 251 (1866).

Dendroca adelaidæ SUND. Oefv. K. Vet. Akad. Förh. Stockh. 1869, p. 615.—GRAY, Handl. Bds. II, p. 241 (1870).—SCL. & SALV. Nom. Avium Neotr. p. 9 (1873).—GUNDL. Anal. Soc. Esp. Hist. Nat. VII, p. 185 (1878).—RIDGW. Pr. U. S. Nat. Mus. V, pp. 525, 526 (1883).—COUES, Key N. Am. Bds. p. 297 (1884).—CORY, List Bds. W. I. p. 8 (1885).—SHARPE, Cat. Bds. Brit. Mus. X, p. 306 (1885).

Dendroica gracie var. *adelaidæ* BD. BREW. & RIDGW. Hist. N. Am. Bds. I, p. 220 (1874).

Sp. CHAR. Male:—"Entire upper parts, and sides of neck as far forward as the eyes, uniform ash gray. Beneath, including edge of bend of wing, bright yellow; lining of wings, axillaries, and crissum, white. A broad yellow line from bill to eye, with the eyelids yellow; forehead and sides of vertex black. A black loral line. Wings with two conspicuous white bands; the quills and tail-feathers blackish, edged externally with whitish, internally with purer white. There lateral tail-feathers with a quadrate terminal white patch on inner web. Bill black. Legs pale yellowish." (BAIRD, l. c.).

Length, 4.7; wing, 2.1; tail, 2.05; tarsus, .65.

HABITAT. Porto Rico.

Dendroica adelaidæ delicata.

Dendroca adelaidæ SCL. P. Z. S. 1871, p. 269.—ALLEN, Bull. Nutt. Orn. Club, V, p. 166 (1880).

Dendroca adelaidæ delicata RIDGW. Pr. U. S. Nat. Mus. V, p. 525 (1882).—CORY, List Bds. W. I. p. 8 (1885).

Dendroca delicata SHARPE, Cat. Bds. Brit. Mus. X, p. 306 (1885).

General appearance of *D. adelaidæ*, but differs in having brighter yellow on the superciliaries and underparts; the yellow superciliary line is broader, occupying the whole forehead except a narrow central line, and the back more plumbeous; it is also slightly larger.

Length, 4.45; wing, 2.10; tail, 2.10; tarsus, .70.

HABITAT. Santa Lucia.

Dendroica virens (GMEL.).

Motacilla virens GMEL. Syst. Nat. I, p. 985 (1788).

Rhimamphus virens GUNDL. J. f. O. 1855, p. 474 (Cuba).

Sylvicola virens BREWER Pr. Bost. Soc. Nat. Hist. VII, p. 307 (1860) (Cuba).

Dendroica virens BAIRD, Rev. Am. Bds. p. 182 (1864).—GUNDL. J. f. O. 1861, p. 426; *ib.* 1872, p. 413; *ib.* Repert. Fisico-Nat. Cuba, I, p. 233 (1865) (Cuba).

Dendræca virens LAWRENCE. Pr. U. S. Nat. Mus. I, p. 54 (1878) (Dominica).—A. & E. NEWTON, Handb. Jamaica, p. 106 (1881).—CORY, List Bds. W. I. p. 8 (1885).

Recorded from Cuba, Jamaica, and Dominica.

Dendroica kirtlandi BAIRD.

Sylvicola kirtlandi BAIRD, Ann. N. Y. Lyc. V, p. 217 (1852).

Dendroica kirtlandii BAIRD, Rev. Am. Bds. p. 206 (1864).

Dendræca kirtlandi CORY, Bds. Bahama I. p. 66 (1880); *ib.* List Bds. W. I. p. 8 (1885).

Common in winter at New Providence and Andros, Bahama Islands; probably ranges as far south as Long Island; no other record. It is possible that it is resident and breeds in the Bahama Islands.

Dendroica pityophila (GUNDL.).

Sylvicola pityophila GUNDL. Ann. N. Y. Lyc. 1855, p. 160.—BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 307 (1860).

Rhimamphus pityophilus GUNDL. J. f. O. 1857, p. 240.

Dendroica pityophila BAIRD, Rev. Am. Bds. p. 208 (1864).—BD. BWR. & RIDGW. Hist. N. Am. Bds. I, p. 221 (1874).

Dendræca pityophila GUNDL. Repert. Fisico-Nat. Cuba, I, p. 234 (1865).—GRAY, Handl. Bds. I, p. 241 (1869).—COUES, Key N. Am. Bds. p. 297 (1884).—CORY, List Bds. W. I. p. 8 (1885).—SHARPE, Cat. Bds. Brit. Mus. X, p. 322 (1885).

Sp. CHAR. *Male*:—"Above, including sides of head and neck, uniform plumbeous gray; the forehead, vertex and loral region olive green; chin and fore-neck bright yellow, extending on the middle of jugulum, and bordered by black streaks towards lower part of neck, most conspicuous on sides of breast. Beneath dull white, the insides of wings more ashy, the flanks something like the back. Two dull ashy white bands across the wing-coverts; the quill- and tail-feathers edged with paler ash than the ground color. Lateral tail-feather with a whitish patch on the inner web, running forward to a point along the shaft, including the whole web at the end; second feather with a more restricted patch of the same." (BAIRD, l. c.)

Length, 4.50; wing, 2.30; tail, 2.20; tarsus, .56; bill, .45.

HABITAT. Cuba.

Dendroica vigorsii (AUD.).

Sylvia pinus WILS. Am. Orn. III, p. 25 (1811) (Nec LATHAM, 1790).

Sylvicola (Dendræca) pinus BRYANT, Pr. Bost. Soc. Nat. Hist. XI, p. 67 (1867).

Dendræca pinus CORY, Bds. Bahama I, p. 69 (1880); *ib.* Bds. Haiti & St. Domingo, p. 33 (1885); *ib.* List. Bds. W. I. p. 8 (1885).

Sylvia vigorsii AUD. Orn. Biog. I, 153 (1835).

Dendroica vigorsii STEJN. Auk, II, 343 (1885).

Common in winter in the Bahama Islands and San Domingo; breeds in San Domingo.

Dendroica discolor (VIEILL.).

Sylvia discolor VIEILL. Ois. Am. Sept. II, p. 37 (1807).—LEMB. Aves Cuba, p. 32 (1850) (Cuba).

Sylvicola discolor GOSSE, Bds. Jam. p. 159 (1847).—BRYANT, Pr. Bost. Soc. Nat. Hist. VII, p. 110 (1859) (Bahamas); *ib.* X, p. 251 (1866) —BREWER, *ib.* VII, p. 307 (1860) (Cuba).

Rhimamphus discolor GUNDL. J. f. O. 1855, p. 474 (Cuba).

Dendræca discolor A. & E. NEWTON, Ibis, 1859, p. 144 (St. Croix); *ib.* Handb. Jamaica, p. 106 (1881).—SCL. P. Z. S. 1861, p. 71 (Jamaica).—CORY, Bds. Bahama I, p. 64 (1880); *ib.* Bull. Nutt. Orn. Club, VI, p. 151 (1881); *ib.* Bds. Haiti & San Domingo, p. 31 (1885); *ib.* List Bds. W. I. p. 8 (1885).

Dendroica discolor GUNDL. J. f. O. 1861, p. 326; *ib.* 1872, p. 416; *ib.* Repert. Fisico-Nat. Cuba, I, p. 235 (1865) (Cuba).—MARCH, Pr. Acad. Nat. Sci. Phila. 1863, p. 293 (Jamaica).—GUNDL. Anal. Soc. Esp. Hist. Nat. VII, p. 186 (1878) (Porto Rico).

Sylvicola (Dendræca) discolor BRYANT, Pr. Bost. Soc. Nat. Hist. XI, p. 91 (1867).

Winters in the Bahamas, the Greater and some of the Lesser Antilles.

Dendroica palmarum (GMEL.).

Motacilla palmarum GMEL. Syst. Nat. I, p. 951 (1788).

Sylvia palmarum D'ORB. in La Sagra's Hist. Nat. Cuba, Ois. p. 61 (1840).

Rhimamphus ruficapillus GUNDL. J. f. O. 1855, p. 473; *ib.* 1861, p. 408 (Cuba).

Sylvicola palmarum SALLÉ, P. Z. S. 1857, p. 231 (San. Domingo).—BRYANT, Pr. Bost. Soc. Nat. Hist. VII, p. 110 (1859) (Bahamas).

Dendroica palmarum GUNDL. J. f. O. 1861, p. 326; *ib.* 1872, p. 415; *ib.* Repert. Fisico-Nat. Cuba, I, p. 234 (1865) (Cuba); *ib.* Anal. Soc. Esp. Hist. Nat. VII, p. 183 (1878) (Porto Rico)

Dendræca palmarum SCL. P. Z. S. 1861, p. 71 (Jamaica).—ALBRECHT, J. f. O. 1862, p. 93 (Jamaica).—CORY, Bds. Bahama I. p. 68 (1880).—A. & E. NEWTON, Handb. Jamaica, p. 106 (1881).

Sylvicola (Dendræca) palmarum BRYANT, Pr. Bost. Soc. Nat. Hist. XI, p. 91 (1867).

Common in winter in the Bahama Islands and Greater Antilles.

Dendroica plumbea LAWRIE.

Dendræca plumbea LAWRIE. Ann. N. Y. Acad. Sci. I, p. 47 (1878); *ib.* Pr. U. S. Nat. Mus. I, p. 486 (1878).—CORY, List Bds. W. I. p. 8 (1885).—SHARPE, Cat. Bds. Brit. Mus. X, p. 333 (1885).

Sp. CHAR. Male:—General plumage above dark plumbeous; a superciliary stripe of white from the bill; a spot of white on the lower eyelid; lores very dark brown, almost black; underparts mixed with ashy and dull white; outer tail-feather tipped with white on the inner web; next feather showing a smaller spot; next two narrowly tipped with white; middle and greater wing-coverts tipped with white, forming two wing-bands.

Female:—Above dark olive; underparts grayish, tinged with olive; showing a pale yellowish wash on the throat, breast and middle of the abdomen.

Length (skin), 5.20; wing, 2.45; tail, 2.25; tarsus, .72.

HABITAT. Guadeloupe and Dominica.

GENUS *Leucopeza* SCL.

Leucopeza SCLATER, P. Z. S. 1876, p. 14.

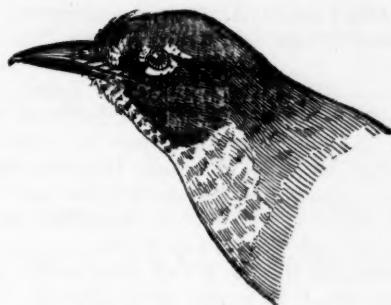
Leucopeza semperi SCL.

Leucopeza semperi SCL. P. Z. S. 1876, p. 14.—ALLEN, Bull. Nutt. Orn. Club, V, p. 166 (1880).—CORY, List Bds. W. I. p. 8 (1885).—SHARPE, Cat. Bds. Brit. Mus. X, p. 228 (1885).

Sp. CHAR. Male:—General plumage above dark bluish gray; slightly brownish on lower back and rump; sides of head and ear-coverts slightly paler; throat and breast grayish white, shading into brownish on the belly; crissum, axillaries and under wing-coverts ashy gray, edged with dull white.

Length, 5.70; wing, 2.60; tail, 2.20; tarsus, .88; bill, .68.

HABITAT. Santa Lucia.

GENUS **Catharopeza** SCL.

Catharopeza SCLATER, Ibis, 1880, p. 73.

Catharopeza bishopi (LAWR.).

Leucopeza bishopi LAWR. Ann. N. Y. Acad. Sci. I, p. 151 (1878); *ib.* Pr. U. S. Nat. Mus. I, p. 486 (1878).—SHARPE, Cat. Bds. Brit. Mus. X, p. 228 (1885).

Catharopeza bishopi SCL. Ibis, 1880, p. 73.—LISTER, Ibis, 1880, p. 40.—CORY, List Bds. W. I, p. 8 (1885).

HABITAT. St. Vincent.

SP. CHAR. *Male*:—"The general plumage is smoky black; rather darker on the head; the sides are blackish cinereous; a circle of pure white surrounds the eye; a large roundish spot on the middle of the throat; the upper part of the breast, and the middle of the abdomen, are dull white, somewhat mixed with blackish on the throat and with cinereous on the abdomen; a very small spot on the chin, and the tips of the feathers on the upper part of the throat are dull white; the black on the upper part of the breast has the appearance of a broad band, separating the white of the throat from that of the lower part of the breast; the under tail-coverts are cinereous-black at base, ending largely with dull white; wings and tail black, the outer two tail-feathers have a small white spot, triangular in shape, on the inner webs at the end; bill black; tarsi and toes very pale yellowish-brown, perhaps much lighter colored in the living bird, nails also pale.

Length (fresh), $5\frac{1}{4}$ in.; wing, $2\frac{3}{4}$; tail, $2\frac{1}{2}$; tarsus, $\frac{5}{8}$. Two specimens marked as females do not differ in plumage from the males." (LAWR. l. c.)

HABITAT. St. Vincent.

GENUS **Seiurus** SWAINS.

Seiurus SWAINSON, Zool. Journ. III, p. 171 (1827).

Seiurus aurocapillus (LINN.).*Motacilla aurocapilla* LINN. Syst. Nat. I, p. 334 (1766).*Sciurus aurocapillus* D'ORB. in La Sagra's Hist. Nat. Cuba, Ois. p. 55 (1840).*Seiurus aurocapillus* GOSSE, Bds. Jam. p. 152 (1847).—SALLÉ, P. Z. S. 1857, p. 321 (San Domingo).—MARCH, Pr. Acad. Nat. Sci. Phila. 1863, p. 294 (Jamaica).—GUNDL. Repert. Fisico-Nat. Cuba, I, p. 325 (1865) (Cuba); *ib.* Anal. Soc. Esp. Hist. Nat. VII, p. 175 (1878) (Porto Rico).—CORY, Bds. Bahama I, p. 70 (1880); *ib.* Bull. Nutt. Orn. Club, VII, p. 151 (1881); *ib.* Bds. Haiti & San Domingo, p. 34 (1885); *ib.* List Bds. W. I. p. 8 (1885).*Henicocichla aurocapilla* GUNDL. J. f. O. 1855, p. 471; *ib.* 1861, pp. 326, 407 (Cuba).—SCL. P. Z. S. 1861, p. 70 (Jamaica).—ALBRECHT, J. f. O. 1862, p. 192 (Jamaica).*Siurus aurocapillus* A. & E. NEWTON, Ibis, 1859, p. 142 (St. Croix); *ib.* Handb. Jamaica, p. 105 (1881).*Enicocichla aurocapillus* BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 306 (1860) (Cuba).

Ranges in winter throughout the West Indies.

Seiurus noveboracensis (GMEL.).*Motacilla noveboracensis* GMEL. Syst. Nat. I, p. 958 (1788).*Siurus nævius* LAWR. Pr. U. S. Nat. Mus. I, p. 233 (Antigua), p. 453 (Guadeloupe), p. 54 (Dominica) (1878).*Sciurus sulfurascens* D'ORB. in La Sagra's Hist. Nat. Cuba, Ois. p. 57 (1840) (Cuba).*Seiurus noveboracensis* GOSSE, Bds. Jam. p. 151 (1847).—MARCH, Pr. Acad. Nat. Sci. Phila. 1863, p. 294 (Jamaica).—GUNDL. Repert. Fisico-Nat. Cuba, I, p. 235 (1865); *ib.* J. f. O. 1872, p. 416 (Cuba); *ib.* Anal. Soc. Esp. Hist. Nat. VII, p. 175 (1878) (Porto Rico).—CORY, Bds. Bahama I, p. 71 (1880); *ib.* Bull. Nutt. Orn. Club, VI, p. 151 (1881); *ib.* List Bds. W. I. p. 8 (1885).*Seiurus gossii* Br. Conspl. I, p. 306 (1850) (Jamaica).*Henicocichla sulphurascens* GUNDL. J. f. O. 1855, p. 471; *ib.* 1861, p. 407 (Cuba).*Henicocichla noveboracensis* GUNDL. J. f. O. 1855, p. 471; *ib.* 1861, pp. 326, 407 (Cuba).—SCL. P. Z. S. 1861, p. 70 (Jamaica).—ALBRECHT, J. f. O. 1862, p. 192 (Jamaica).*Siurus noveboracensis* A. & E. NEWTON, Ibis, 1859, p. 145 (St. Croix); *ib.* Handb. Jamaica, p. 105 (1881).*Enicocichla noveboracensis* BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 306 (1860) (Cuba).

The present species ranges in winter throughout the West Indies.

Seiurus motacilla (VIEILL.).

Turdus motacilla VIEILL. Ois. Am. Sept. II, p. 9 (1807).
Henicocichla motacilla CAB. J. f. O. 1857, p. 240 (Cuba).—GUNDL. J. f. O. 1861, p. 326 (Cuba).
Henicocichla major CAB. J. f. O. 1857, p. 240 (Cuba).
Enicocichla major BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 306 (1860) (Cuba).
Henicocichla ludoviciana SCL. P. Z. S. 1861, p. 70 (Jamaica).—ALBRECHT, J. f. O. 1862, p. 192 (Jamaica).
Seiurus ludovicianus GUNDL. Repert. Fisico-Nat. Cuba, I, p. 236 (1865); *ib.* J. f. O. 1872, p. 417 (Cuba).
Siurus motacilla LAWRIE. Pr. U. S. Nat. Mus. I, pp. 233, 486 (1878) (Antigua).
Seiurus motacilla CORY, Bds. Haiti & San Domingo, p. 35 (1885); *ib.* List Bds. W. I. p. 8 (1885).

Winters in the Greater Antilles; probably occurs throughout the West Indies.

GENUS Geothlypis CABAN.

Geothlypis CABANIS, Arch. für Naturg. I, pp. 316, 449 (1847).

Geothlypis formosa (WILS.).

Sylvia formosa WILS. Am. Orn. III, p. 85 (1811).
Myiodiodes formosus LEMB. Aves Cuba, p. 37 (1850) (Cuba).—GUNDL. J. f. O. 1861, p. 326 (Cuba).
Myiotomus formosus GUNDL. J. f. O. 1855, p. 472 (Cuba).
Setophaga formosa BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 307 (1860) (Cuba).
Oporornis formosus GUNDL. Repert. Fisico-Nat. Cuba, I, p. 236 (1865); *ib.* J. f. O. 1872, p. 417 (Cuba).—CORY, List Bds. W. I. p. 8 (1885).
Geothlypis formosa RIDGW. Pr. U. S. Nat. Mus. VIII, p. 354 (1885).
 Accidental in Cuba.

Geothlypis rostrata BRYANT.

Geothlypis rostratus BRYANT, Pr. Bost. Soc. Nat. Hist. XI, p. 67 (1866).—CORY, Bds. Bahama I. p. 73 (1880); *ib.* List Bds. W. I. p. 9 (1885).
Trichas rostrata GRAY, Handl. Bds. I, p. 242 (1869).
Geothlypis trichas var. *rostrata* BD. BWR. & RIDGW. Hist. N. Am. Bds. I, p. 296 (1874).
Geothlypis rostrata SHARPE, Cat. Bds. Brit. Mus. X, p. 355 (1885).

SP. CHAR. *Male*:—Above bright olive green; a broad band of black passing from the sides of the neck, over the forehead, including the eye,

and extending to the nostril, just touching the lower mandible, the black bordered posteriorly with pearl gray, becoming deeper gray upon the crown; underparts bright yellow, the flanks shaded with olive; quills brown, with the outer webs olive green; third primary longest.

Female:—The black band wanting; plumage slightly paler; a pale ash-colored line from over the eye to sides of the neck; crown showing a trace of brown; otherwise resembling the male.

Length, 5.50; wing, 2.70; tail, 2.36; tarsus, .92; bill, .72.

HABITAT. New Providence, Bahama Islands.

Geothlypis trichas (LINN.).

Turdus trichas LINN. Syst. Nat. I, p. 293 (1766).

Sylvia trichas D'ORB. in La Sagra's Hist. Nat. Cuba, Ois. p. 67 (1840) (Cuba).

Trichas marylandica GOSSE, Bds. Jam. p. 148 (1847).—BRYANT, Pr. Bost. Soc. Nat. Hist. VII, p. 110 (1859) (Bahamas).

Trichas marylandica BREWER, Pr. Bost. Soc. Nat. Hist. VII. p. 307 (1860) (Cuba).

Geothlypis trichas GUNDL. J. f. O. 1855, p. 472; *ib.* 1861, p. 326; *ib.* 1872, p. 417; *ib.* Repert. Fisico-Nat. Cuba, I, p. 236 (1865) (Cuba).—SCL. P. Z. S. 1861, p. 70 (Jamaica).—ALBRECHT, J. f. O. 1862, p. 192 (Jamaica).—MARCH, Pr. Acad. Nat. Sci. Phila. 1863, p. 293 (Jamaica).—GUNDL. Anal. Soc. Esp. Hist. Nat. VII, p. 187 (1878) (Porto Rico).—CORY, Bds. Bahama I. p. 72 (1880); *ib.* Bull. Nutt. Orn. Club, VI, p. 151 (1881); *ib.* Bds. Haiti & San Domingo, p. 36 (1885); *ib.* List Bds. W. I. p. 9 (1885).—A. & E. NEWTON, Handb. Jam. p. 106 (1881).

Common in winter in the Bahama Islands and Greater Antilles.

GENUS *Microligea* CORY.



Microligea CORY, Auk, I, p. 290 (1884).

Microligea palustris CORY.

Ligea palustris CORY, Auk, I, p. 1 (1884); *ib.* Bds. Haiti & San Domingo, p. 38 (1885).—SHARPE, Cat. Bds. Brit. Mus. X, p. 349 (1885).

Microligea palustris CORY, Auk, I, p. 290 (1884); *ib.* List Bds. W. I. p. 9 (1885).

Sp. CHAR. Male:—Crown, nape and upper portion of back slaty plumbeous; rest of back and upper surface of wings and tail yellowish green; throat, breast and sides grayish plumbeous, showing a dull olive tinge on the sides, darkest on the flanks; the middle of the throat showing a slight grayish tinge, and the middle of the belly showing distinctly white; outer webs of primaries and most of the secondaries yellowish green, giving the wing a general greenish appearance; inner webs of primaries dark brown, apparently slate color in some lights; under surface of tail dull green; eyelids white.

Female:—In general appearance like the male, but differs from it by underparts being tinged with olive, mixing with the gray, and top of the head green, showing the slate color faintly.

Length, 5.50; wing, 2.50; tail, 2.50; tarsus, .75; bill, .50; middle toe, .40.

HABITAT. San Domingo.

GENUS *Teretistris* CABAN.

Teretistris CABANIS, "J. f. O. 1855, p. 475."

Teretistris fernandinæ (LEMB.).

Anabates fernandinæ LEMB. Aves Cuba, p. 66 (1850).—GUNDL. Journ. Bost. Soc. Nat. Hist. VI, p. 317 (1852).

Helmitherus blanda Bp. Conspl. I, p. 314 (1850).

Teretistris fernandinæ CAB. J. f. O. 1855, p. 475.—BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 307 (1860).—GUNDL. Repert. Fisico-Nat. Cuba, I, p. 236 (1865); *ib.* J. f. O. 1872, p. 418.—GRAY, Handl. Bds. I, p. 384 (1869).—CORY, List Bds. W. I. p. 9 (1885).—SHARPE, Cat. Bds. Brit. Mus. X, p. 368 (1885).

Teretistris fernandinæ BAIRD, Rev. Am. Bds. p. 234 (1864).—SCL. & SALV. Nom. Avium Neot. p. 11 (1873).

Sp. CHAR. Male:—Top of the head bright olive green, this color extending to the upper back; rest of upper parts ash-gray; throat and sides of the head bright yellow, tinged with olive on the cheeks and ear-coverts; eyelids bright yellow; rest of underparts ash-gray, whitish on the middle of the belly, and tinged with olive on the flanks and sides; a slight tinge of olive on the carpus; under wing-coverts white, slightly tinged with yellow.

Length, 4.85; wing, 2.20; tail, 1.95; tarsus, .75.

HABITAT. Western part of Cuba.

Teretistris fornsi GUNDL.

Teretistris fornsi GUNDL. Ann. N. Y. Lyc. Nat. Hist. VI, p. 274 (1858).—BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 307 (1860).—ALBRECHT,

J. f. O. 1861, p. 211; *ib.* J. f. O. 1862, p. 177; *ib.* Repert. Fisico-Nat. Cuba, I, p. 236 (1865); *ib.* J. f. O. 1872, p. 418.—CORY, List Bds. W. I. p. 9 (1885).—SHARPE, Cat. Bds. Brit. Mus. X, p. 368 (1885).

Teretristis fornsii BAIRD, Rev. Am. Bds. p. 235 (1864).

Teretristis fornsii GRAY, Handl. Bds. I, p. 384 (1869).

Teretristis fornsi SCL. & SALV. Nom. Avium Neot. p. 11 (1873).

SP. CHAR. *Male*:—Top of head and upper parts pale ash-gray; a faint indication of yellow on the extreme forehead; sides of the head (including the eye), throat, and underparts yellow, becoming pale on the belly and ashy white on the flanks and crissum; wings and tail pale brown, the feathers pale edged; a tinge of yellow on the carpus and under wing-coverts.

Female:—Similar to the male, but less yellow on the underparts; ashy white on the belly.

Length, 4.60; wing, 2.15; tail, 1.95; tarsus, .72.

HABITAT. Eastern portion of Cuba.

GENUS *Sylvania* NUTTALL.

Sylvania "NUTT. Man. Orn. 1832."

Sylvania mitrata (GMEL.).

Motacilla mitrata GMEL. Syst. Nat. I, p. 977 (1788).

Setophaga mitrata D'ORB. in La Sagra's Hist. Nat. Cuba, Ois. p. 89 (1840) (Cuba).—BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 307 (1860) (Cuba).

Myioctomus mitratus GUNDL. J. f. O. 1855, p. 472; *ib.* 1861, p. 407 (Cuba); *ib.* 1872, p. 419 (Cuba).

Myiodioctes mitratus GUNDL. J. f. O. 1861, p. 326; *ib.* 1872, p. 419; *ib.* Repert. Fisico-Nat. Cuba, I, p. 237 (1865) (Cuba).—A. & E. NEWTON, Handb. Jam. p. 106 (1881).

Sylvania mitratus CORY, List Bds. W. I. p. 9 (1885).

Accidental in Cuba and Jamaica.

GENUS *Setophaga* SWAINS.

Setophaga SWAINSON, Zool. Journ. III, p. 360 (1827).

Setophaga ruticilla (LINN.).

Muscicapa ruticilla LINN. Syst. Nat. I, p. 326 (1766).—D'ORB. in La Sagra's Hist. Nat. Cuba, Ois. p. 87 (1840) (Cuba).

Setophaga ruticilla GOSSE, Bds. Jam. p. 164 (1874) (Jamaica).—GUNDL. J. f. O. 1855, p. 472; *ib.* 1861, p. 326; *ib.* 1872, p. 419; *ib.* Repert. Fisico-Nat. Cuba, I, p. 237 (1865) (Cuba).—SALLE, P. Z. S. 1857,

p. 231 (San Domingo).—A. & E. NEWTON, *Ibis*, 1859, p. 144 (St. Croix).—BRYANT, *Pr. Bost. Soc. Nat. Hist.* VII, p. 111 (1859) (Bahamas).—BREWER, *Pr. Bost. Soc. Nat. Hist.* VII, p. 307 (1860) (Cuba).—SCL. P. Z. S. 1861, p. 72 (Jamaica).—ALBRECHT, *J. f. O.* 1862, p. 194 (Jamaica).—MARCH, *Pr. Acad. Nat. Sci. Phila.* 1863, p. 293 (Jamaica).—LAWR. *Ann. Lyc. N. Y.* VIII, p. 97 (1864) (Sombroero Is.); *ib.* *Pr. U. S. Nat. Mus.* I, p. 486 (1878) (Lesser Antilles).—SCL. P. Z. S. 1876, p. 14 (Sta. Lucia).—GUNDL. *Anal. Soc. Esp. Hist. Nat.* VII, p. 187 (1878) (Porto Rico).—CORY, *Bds. Bahama I.* p. 75 (1880); *ib.* *Bull. Nutt. Orn. Club*, VI, p. 151 (1881) (Haiti); *ib.* *Bds. Haiti & San Domingo*, p. 40 (1885).—A. & E. NEWTON, *Handb. Jam.* p. 106 (1881).—TRISTRAM, *Ibis*, 1884, p. 168 (San Domingo).

The present species probably occurs in most of the West India Islands. It is recorded from the Bahamas, all of the Greater, and some of the Lesser Antilles.

FAMILY CEREBIDÆ.

GENUS *Certhiola* SUNDEV.

Certhiola SUNDEV. *Vet. Akad. Handl. Stockholm*, p. 99 (1835).

Certhiola bahamensis REICH.

Parus bahamensis SELIGIN, *Samml. ausl. Vögel* III, p. t. xviii (1753).
Certhia bahamensis BRISS. *Orn.* III, p. 620 (1760).
Certhia flaveola var. β . LINN. *Syst. Nat.* I, p. 187 (1766).
Certhia flaveola var. γ . GMEL. *Syst. Nat.* I, p. 479 (1788).
Certhia flaveola var. γ . LATH. *Ind. Orn.* I, p. 297 (1790).—BECHST. *Lath. Uebers.* IV, p. 188.
Certhiola flaveola GRAY, *Gen. Bds.* I, p. 102 (1844).—BP. *Consp.* I, p. 402 (1850).—BAIRD, *Bds. N. Am.* p. 924 (1858).
Certhiola bahamensis REICH. *Handb.* I, p. 253 (1853).—CASSIN, *Pr. Acad. Nat. Sci. Phila.* 1864, p. 271.—CAB. *J. f. O.* 1865, p. 412.—BRYANT, *Pr. Bost. Soc. Nat. Hist.* XI, p. 66 (1866).—GRAY, *Handl. Bds.* I, p. 120 (1869).—FINSCH, *Verhandl. Zool. Botan. Gesells. Wien.* XXI, p. 752 (1871).—SCL. & SALV. *Nom. Avium Neot.* p. 16 (1873).—BD. BWR. & RIDGW. *Hist. N. Am. Bds.* I, p. 428 (1874).—CORY, *Bds. Bahama I.* p. 76 (1880); *ib.* *List Bds. W. I.* p. 9 (1885).—COUES, *Key N. Am. Bds.* p. 317 (1884).—RIDGW. *Pr. U. S. Nat. Mus.* VIII, pp. 27, 29 (1885).
Certhiola bairdii CAB. *J. f. O.* 1865, p. 412.

SP. CHAR. Male:—Above black, with a slight grayish tinge; a superciliary line of white, from bill to nape; throat ashy white; breast bright yellow, extending upon the sides of the abdomen, and shading into gray upon the flanks; crissum white, wing-feathers slightly edged with dull white; a white patch at the base of the primaries, forming a bar on the wings; edge of the carpus bright yellow; tail, color of the back, tipped with white, wanting upon the middle, and largest upon the two outer feathers.

Female:—Slightly paler than the male, but otherwise resembling it.

Length, 4.50; wing, 2.60; tail, 1.90; tarsus, .70; bill, .54.

HABITAT. Bahamas.

Certhiola portoricensis (BRYANT).

Cæreba flaveola VIEILL. Ency. Méth. 1820, p. 611.

Nectarinia flaveola MORITZ. Wieg. Arch. für. Naturg. II, p. 387 (1836).

Certhiola flaveola SCL. Cat. Am. Bds. p. 54 (1862) (St. Thomas).—TAYLOR, Ibis, 1864, p. 166.—CASSIN, Pr. Acad. Nat. Sci. Phila. 1864, p. 271.

Certhiola flaveola var. *portoricensis* BRYANT, Pr. Bost. Soc. Nat. Hist. X, p. 252 (1866).

Certhiola sti. thomae SUND. Conspl. 1869, p. 621 (?).

Certhiola portoricensis SUND. Conspl. 1869, p. 622.—FINSCH, Verhandl. Zool. Botan. Gesells. Wien, XXI, p. 760 (1871).—SCL. & SALV. Nom. Avium Neot. p. 16 (1873).—BD. BWR. & RIDGW. Hist. N. Am. Bds. I, p. 427 (1874).—GUNDL. Anal. Soc. Esp. Hist. Nat. VII, p. 216 (1878).—RIDGW. Pr. U. S. Nat. Mus. VII, p. 172 (1884); *ib.* VIII, pp. 28, 29 (1885).—CORY, List Bds. W. I. p. 9 (1885).

SP. CHAR.—Back dark slate color, showing an olive tint in some specimens; in others the back almost black; rump olive yellow; breast color of rump, showing more olive on the abdomen; throat gray; second, third, fourth, and fifth primaries banded at base with white, sixth primary nearly so, rest of primaries showing white on the webs at the base.

Length (skin), 4.25; wing, 2.30; tail, 1.45; tarsus, .72; bill, .50.

HABITAT. Porto Rico and St. Thomas.

Certhiola sancti-thomæ RIDGW.

Certhiola portoricensis FINSCH, Verhandl. Zool. Botan. Gesells. Wien, XXI, p. 760 (1871).—BAIRD, Am. Nat. VII, p. 672 (1873) and authors from St. Thomas and St. John.

Certhiola sancti-thomæ RIDGW. Pr. U. S. Nat. Mus. VIII, pp. 28, 29 (1885).—CORY, List Bds. W. I. p. 9 (1885).

SP. CHAR.—Very close to *C. portoricensis*, but separated from it by having the back lighter slate color, and throat lighter gray.

Measurements practically the same as those of *C. portoricensis*.

HABITAT. St. Thomas, and St. John, W. I.

This is a somewhat doubtful species, and requires further investigation. Specimens in my collection from St. John and St. Thomas show the dark back of *C. portoricensis*, while others show the gray tinge, representing *sancti-thomae*. I have also a specimen of *C. portoricensis* which has the back nearly as gray as any from St. Thomas. A specimen from St. Thomas also agrees with one from Port Rico, in the color of the throat, although other specimens have the throat lighter. It is possible that some of the specimens in question may be incorrectly labelled, as several of them were obtained by purchase.

Certhiola bananivora (GMEL.).

Motacilla bananivora GMEL. Syst. Nat. I, p. 951 (1788).

Certhiola—(?) SALLÉ. P. Z. S. 1857, p. 233.

Certhiola bananivora BRYANT, Pr. Bost. Soc. Nat. Hist. XI, p. 95 (1865).

—BD. BWR. & RIDGW. Hist. N. Am. Bds. I, p. 427 (1874).—

CORY, Bds. Haiti, and San Domingo, p. 41 (1885); *ib.* List Bds. W. I. p. 9 (1885).

Certhiola clusiae "HERZ VON WURTLEMB. HARTL. Naumannia, II, Heft. 2, p. 56 (1852) (sine descr.)."—FINSCH, Verhandl. Zool. Botan. Gesells. Wien, XXI, p. 771 (1871).—Scl. & Salv. Nom. Avium Neot. p. 17 (1873).—CORY, Bull. Nutt. Orn. Club, VI, p. 151 (1881).

SP. CHAR. *Male*:—Upper surface, including head, cheeks, wings, and tail, dull black; a superciliary white stripe, extending from the base of the upper mandible to the nape; throat dark slatey color; under-parts bright yellow, becoming grayish olive upon the sides and thighs; rump and carpus bright yellow; an edging of white upon the basal portion of primaries on the outer webs, very narrow upon the first, the whole nearly concealed by the coverts, forming a narrow white wing-band; bill and feet black; tail slightly tipped with dull white on the outer feathers.

The sexes are similar.

Length, 4.40; wing, 2.40; tail, 1.60; tarsus, .60; bill, .50.

HABITAT. San Domingo.

Young birds of this species have the superciliary stripe yellow, and the back more gray. Specimens in my collection show all

intermediate stages, from the yellow one, some having it half white, half yellow, while others show but a faint spot of yellow in front of the eye. The color of the throat also varies slightly at different seasons and ages.

Certhiola bartholemica (SPARRM.).

Certhia bartholemica SPARRM. Mus. Carls. fasc. III, No. 57 (1788).—BECHST. Lath. Uebers. I, p. 611. (1793).

Cæreba flaveola VIEILL. Ency. Méth. p. 611 (1820).

Certhiola bartholemica REICH. Handb. Scans. p. 253 (1853).—SUNDEV. Kütisk. Framställ. in K. Vet. Akad. Handl. II, No. 3, p. 10 (1857); *ib.* Vet. Akad. Förh. 1869, p. 6. —FINSCH. Verhandl. Zool. Botan. Gesells. Wien, XXI, p. 763 (1873).—SCL. & SALV. Nom. Avium Neotr. p. 16 (1873).—BD. BWR. & RIDGW. Hist. N. Am. Bds. I, p. 428 (1874).—CORY, List. Bds. W. I. p. 9 (1885).—RIDGW. Pr. U. S. Nat. Mus. VIII, pp. 28, 30 (1885).

SP. CHAR.—Forehead dull gray; throat dark plumbeous; superciliary stripe extending backward, commencing above the eye; white marking near base of primaries very small; lower part of rump dull yellowish green.

Length (skin), 395; wing, 2.35; tail, 1.70.

HABITAT. St. Bartholemew.

Certhiola saccharina LAWR.

Certhiola saccharina LAWR. Am. N. Y. Acad. Sci. I, p. 151 (1878); *ib.* Pr. U. S. Nat. Mus. I, p. 487 (1878).—CORY, List. Bds. W. I. p. 9 (1885).—RIDGW. Pr. U. S. Nat. Mus. VIII, pp. 28, 30. (1885).

SP. CHAR.—Throat very dark slate color, much darker than in *C. portoricensis*, and extending lower; underparts brighter yellow; the white marking on the primaries somewhat heavier; rump yellowish green; back very dark slate color, not quite as dark as in *C. portoricensis*.

Length (skin), 4; wing, 2.30; tail, 1.50; tarsus, .58.

HABITAT. St. Vincent, and Grenada.

Certhiola flaveola (LINN.).

Certhiola flaveola LINN. Syst. Nat. I, p. 187 (1766).—GMEL. Syst. Nat. I, p. 497 (1788).—VIEILL. Ency. Méth. p. 611 (1820).—DENNY, P. Z. S. 1847, p. 39.

Certhiola flaveola GOSSE, Bds. Jam. p. 84 (1847).—SCL. Cat. Am. Bds. p. 54 (1862).—ALBRECHT, J. f. O. 1862, p. 196.—MARCH, Pr. Acad. Nat. Sci. Phila. 1863, p. 296.—GRAY, Handl. Bds. I, p. 120 (1869).

—FINSCH, Verhandl. Zool. Botan. Gesells. Wien, XXI, p. 756 (1871).—SCL. & SALV. Nom. Avium Neotr. p. 16 (1873).—BD. BWR. & RIDGW. Hist. N. Am. Bds. I, p. 427 (1874).—A. & E. NEWTON, Handb. Jamaica, p. 103 (1881).—CORY, List. Bds. W. I. p. 9 (1885).—RIDGW. Pr. U. S. Nat. Mus. VIII, pp. 28-30 (1885).

SP. CHAR.—General appearance of *C. portoricensis*, but having the throat much darker gray. Upper parts of breast showing an olive tinge; the yellow of the breast is duller than in *C. portoricensis*, and somewhat ochraceous; outer webs of primaries heavily marked with white, extending fully half their length, inner webs showing much white at the base, and narrowly edged with the same; secondaries broadly marked with white on the inner webs; rump yellow, as bright as the belly.

Length (skin), 4; wing, 2.32; tail, 1.60; tarsus, .58.

HABITAT. Jamaica.

Certhiola newtoni BAIRD.

Certhiola flaveola A. & E. NEWTON, Ibis, 1859, p. 67.—SCL. Cat. Am. Bds. p. 54 (1862) (St. Croix).—SUNDEV. Vet. Akad. Förh. 1869, p. 623 (St. Croix).

Certhiola bartholemica FINSCH, Verhandl. Zool. Botan. Gesells. Wien, XXI, p. 763 (1871) (St. Croix).—SCL. & SALV. Nom. Avium Neotr. p. 16 (1873) (St. Croix).—CORY, List Bds. W. I. p. 9 (1884).

Certhiola newtoni BAIRD, Am. Nat. VII, p. 611 (1873).—BD. BWR. & RIDGW. Hist. N. Am. Bds. I, p. 427 (1884).—RIDGW. Pr. U. S. Nat. Mus. VIII, pp. 28-30 (1885).

SP. CHAR.—Similar to *C. flaveola*. “White patch of wing more quadrate on each quill; transverse; not tapering off gradually and uniformly behind; not reaching the shaft on outer primary. Breast without ochraceous; rump olivaceous yellow; the color different from that of the belly.” (BD. BWR. & RIDGW. Hist. N. Am. Bds.)

HABITAT. St. Croix.

Certhiola dominicana TAYLOR.

Certhiola dominicana TAYLOR, Ibis, 1864, p. 167.—GRAY, Handl. Bds. I, p. 120 (1869).—FINSCH, Verhandl. Zool. Botan. Gesells. Wien, XXI, p. 787 (1871).—SCL. & SALV. Nom. Avium Neotr. p. 17 (1873).—BD. BWR. & RIDGW. Hist. N. Am. Bds. I, p. 428 (1874).—LAWR. Pr. U. S. Nat. Mus. I, p. 487 (1878).—CORY, List. Bds. W. I. p. 9 (1885).—RIDGW. Pr. U. S. Nat. Mus. VIII, p. 30 (1885).

Certhiola frontalis BAIRD, MSS. Bd. Bwr. & Ridgw. Hist. N. Am. Bds. I, p. 428 (1874).

SP. CHAR.—Superciliary stripe lacking, or extremely indistinct in front of the eye; frontal region dull grayish black; back smoky black, sometimes showing a slight olive tinge when held in the light; throat dark slate color; lower part of rump showing olive green; a delicate penciling of white on the outer webs of primaries.

Length (skin), 4.85; wing, 2.50; tail, 1.60; tarsus, .65.

HABITAT. Dominica, Antigua, Barbuda, Nevis, St. Eustatius, Guadeloupe, and Saba.

C. sundevalli Ridgw. is probably a phase of plumage of this species, the yellow superciliary stripe changing with age, as in *C. bananivora*.

Certhiola barbadensis BAIRD.

Certhiola martinicana SCL. P. Z. S. 1874, p. 174.

Certhiola barbadensis BAIRD, Am. Nat. VII, p. 612 (1873).—BB. BWR. & RIDGW. Hist. N. Am. Bds. I, p. 428 (1874).—CORY, List Bds. W. I. p. 9 (1885).—RIDGW. Pr. U. S. Nat. Mus. VIII, pp. 28, 30 (1886).

SP. CHAR.—“Upper part of throat slate black, bordered laterally by a gray rictal patch, and below by a yellowish white patch; separating the black from the yellow of the jugulum. Upper parts as in *C. dominicana*, but superciliary stripe broadest and most sharply defined anteriorly.” (RIDGW. Pr. U. S. Nat. Mus. VIII, p. 28 (1885).)

Length, 3.75; wing, 2.40; tail, 1.75.

HABITAT. Barbadoes.

Certhiola martinicana REICH.

Certhia martinicana s. *saccharivora* BRISS. Orn. III, p. 611 (1860).

Certhia flaveola var. β . LINN. Syst. Nat. I, p. 187 (1766).—GMEL. Syst. Nat. I, p. 479 (1788).

Certhiola martinicana REICH. Handb. I, p. 252 (1853).—CASSIN, Pr. Acad. Nat. Sci. Phila. 1864, p. 271.—CAB. J. f. O. 1865, p. 412.—GRAY, Handl. Bds. I, p. 120 (1869).—FINSCH, Verhandl. Zool. Botan. Gesells. Wien, XXI, p. 788 (1871).—SCL. P. Z. S. 1871, p. 269.—SCL. & SALV. Nom. Avium Neotr. p. 17 (1873).—BD. BWR. & RIDGW. Hist. N. Am. Bds. I, p. 428 (1874).—LAWR. Pr. U. S. Nat. Mus. I, p. 487 (1878).—ALLEN, Bull. Nutt. Orn. Club, V, p. 166 (1880).—CORY, List Bds. W. I. p. 9 (1885).—RIDGW. Pr. U. S. Nat. Mus. VIII, pp. 28-30 (1885).

Certhiola albogularis Bp. Compt. Rend. 1854, p. 259.—TAYOR, Ibis, 1864, p. 167.—NEWTON, Zool. Record, 1864, p. 76.

SP. CHAR.—Sides of the throat grayish black; a patch of white on the middle of the throat to breast; underparts bright yellow, a tinge of

olive on the abdomen; lower rump narrowly banded with olive green; upper parts dull slate color; wing-coverts sometimes slightly tipped with white.

Length (skin), 4.15; wing, 2.28; tail, 1.60; tarsus, .64. Another specimen: Length (skin), 4.35; wing, 2.33; tail, 1.70; tarsus, .68.

HABITAT. Santa Lucia and Martinique.

C. finschi Ridgw. is probably a phase of plumage of this species. Some specimens from Martinique in my collection have the superciliary stripe yellow, and also show yellow on the throat. The locality given where the type specimen of *C. finschi* was taken is, as Mr. Ridgway suggests, undoubtedly incorrect. The same variation in coloring on account of age and season is shown in the San Domingo species *C. bananivora*.

Certhiola atrata LAWRIE.

Certhiola atrata LAWRIE. Am. N. Y. Acad. Sci. I, p. 150 (1878); *ib.* Pr. U. S. Nat. Mus. I, p. 487 (1878).—LISTER, Ibis, 1880, p. 40.—CORY, List. Bds. W. I. p. 9 (1885).—RIDGW. Pr. U. S. Nat. Mus. VIII pp. 28, 30 (1885).

SP. CHAR.—Entire plumage dull black; a tinge of olive is perceptible on the underparts, and on the rump.

Length (skin), 4.05; wing, 2.35; tail, 1.50; tarsus, .56.

HABITAT. St. Vincent and Grenada.

Mr. Ridgway expresses the opinion that this is perhaps a melanotic variety of *C. saccharina*.

GENUS *Cæreba* VIEILL.

Cæreba VIEILLOT, Ois. Am. Sept. 1807.

Cæreba cyanea (LINN.).

Certhia cyanea LINN. Syst. Nat. I, p. 188 (1766).

Certhia cyanogastra LATH. Ind. Orn. I, p. 295 (1790).

Cæreba cyanea VIEILL. Ois. Dos. pls. 41, 42, 43, et Gal. Ois. pl. 176 (1820-26).—MAX. Beitr. III, p. 761 (1831).—Bp. Consp. I, p. 399 (1850).—THIENEM. J. f. O. 1857, p. 152.—BURM. Syst. Ueb. III, p. 150.—SCL. Cat. Am. Bds. p. 52 (1862).—GRAY, Handl. Bds. I, p. 116 (1869).—SCL. & SALV. Nom. Avium Neot. p. 16 (1873).—BD. BWR. & RIDGW. Hist. N. Am. Bds. I, p. 425 (1874).—CORY, List Bds. W. I. p. 9 (1885).

Cæreba cyanea D'ORB. in La Sagra's Hist. Nat. Cuba, Ois. p. 124 (1840).

—LEMB. Aves Cuba, p. 131 (1850).

Arbelorhina cyanea CAB. in Schomb. Guian. III, p. 675 (1848); *ib.* J. f. O. 1856, p. 98; *ib.* 1874, p. 139.—GUNDL. Repert. Fisico-Nat. Cuba, I, p. 291 (1865).—BREWER. Pr. Bost. Soc. Nat. Hist. VIII, p. 306 (1860).

Sp. CHAR. *Male*:—Top of head bright pale blue; a stripe of black passing from the upper mandible and encircling the eye; sides of the head, lower back, and entire underparts dark purplish blue. wings and upper back black; inner webs of primaries and secondaries bright yellow; sides and flanks greenish.

Female:—Entire upper parts bright green; underparts green, the shafts of the feathers showing dull white, giving a finely pencilled appearance to the throat and breast; central portion of belly showing a pale yellowish tinge.

Length (skin), 4; wing, 2.60; tail, 1.30; tarsus, .50; bill, .50.

Dr. Gundlach writes me that this species is abundant in many portions of the Island of Cuba.

GENUS *Glossiptila* SCL.



Glossiptila SCLATER, P. Z. S. 1856, p. 269.

Glossiptila ruficollis (GMEL.).

Motacilla campestris LINN. Syst. Nat. I, p. 329 (1766).

Tanagra ruficollis "GMEL. Syst. Nat. II."

Tachyphonus ruficollaris LAFR. Rev. Zool. 1846, p. 320.

Tanagrella ruficollis GOSSE, Bds. Jam. p. 236 (1847).—GRAY, Gen. Bds. III, App. p. 17 (1849).—BP. Conspl. I, p. 236 (1850).

Pyrrhulagra ruficollis BP. Conspl. I, p. 493 (1850) (excl. syn.).

Neornis cœrulea HARTL. Nachtr. z. Verz. Mus. Brem. p. 8 (descr. nulla).

Glossiptila ruficollis SEL. P. Z. S. 1856, p. 269.—ALBRECHT, J. f. O. 1862,

p. 196.—MARCH, Pr. Acad. Nat. Sci. Phila. 1863, p. 296.—BAIRD,

Rev. Am. Bds. I, p. 163 (1884).—GRAY, Handl. Bds. I, p. 120 (1869).

—SCL. & SALV. Nom. Avium Neot. p. 17 (1873).—A. & E. NEW-

TON, Handb. Jamaica, p. 104 (1881).—CORY, List Bds. W. I. p. 9 (1885).

SP. CHAR. *Male*:—General plumage dull blue; a stripe of dull black from the bill to the eye, showing slightly on the forehead; a large patch of rufous on the throat; quills and tail dark brown, feathers edged with blue; bill black; feet horn color.

Female:—Top of head bluish gray, shading into grayish olive on the back; wings edged with pale brown; underparts gray, faintly streaked; tail brown.

Length (skin), 5; wing, 3; tail, 1.75; tarsus, .58.

HABITAT. Jamaica.

GENUS *Chlorophanes* REICH.

Chlorophanes "REICH. Handb. p. 234 (1853)."

Chlorophanes atricapilla (VIEILL.).

Certhia spiza var. ? GMEIL. Syst. Nat. I, p. 476 (1788).

Cæreba atricapilla VIEILL. Nouv. Dict. XIV, p. 50.

Cæreba spiza MAX. Beitr. III, p. 771 (1831).

Cæreba atricapilla BP. Conspl. I, p. 400 (1850).

Dacnis atricapilla SCL. Contr. Orn. p. 108 (1851).

Chlorophanes atricapilla "REICH. Handb. p. 234 (1853)." —SCL. Cat. Am.

Bds. p. 52 (1862). —BAIRD, Rev. Am. Bds. p. 163 (1864). —GRAY.

Handl. Bds. I, p. 118 (1869). —SCL. & SALV. Nom. Avium Neotr. p.

16 (1873). (Cuba). —CORY, List Bds. W. I. p. 9 (1885).

Dacnis spiza CAB. Mus. Hein. I, p. 95 (1850). —BURM. Syst. Ueb. III, p.

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Nectarina mitrata LICHT. Doubl. p. 15.

SP. CHAR. *Male*:—Head and cheeks black, rest of plumage, including throat, bright bluish green; quills and tail dark brown, edged with greenish; under surface of wing steel gray.

Female:—Entire plumage light green, brightest on the back, and palest on the underparts; under surface of wing dull white.

Length (skin), 5; wing, 2.75; tail, 2; tarsus, .75.

A male bird of this species in my cabinet is labelled Cuba, and Messrs. Slater and Salvin (l. c.) record it from there. It is probable that if the localities given are correct, the specimens in question were escaped cage birds.

FAMILY HIRUNDINIDÆ.

GENUS *Progne* BOIE.

Progne BOIE, Isis, 1826, p. 971.

Progne dominicensis (GMEL.).

Hirundo dominicensis GMEL. Syst. Nat. I, p. 1025 (1788).—VIEILL. Ois. Am. Sept. p. 59 (1807).

Hirundo albiventris VIEILL. Nouv. Dict. Hist. Nat. XIV, p. 533 (1817).
Progne dominicensis BOIE, Isis, 1826, p. 971.—GOSSE, Bds. Jam. p. 69 (1847).—BP. Consp. I, p. 337 (1850).—ALBRECHT, J. f. O. 1862, p. 194.—MARCH, Pr. Acad. Nat. Sci. Phila. 1863, p. 295.—TAYLOR, Ibis, 1864, p. 166.—BAIRD, Rev. Am. Bds. p. 279 (1864).—GUNDL. J. f. O. 1872, p. 419; *ib.* Anal. Soc. Esp. Hist. Nat. VII, p. 196 (1878).—SCL. & SALV. Nom. Avium Neot. p. 14 (1873).—LAWR. Pr. U. S. Nat. Mus. I, p. 487 (1878).—LISTER, Ibis, 1880, p. 40.—A. & E. NEWTON, Handb. Jamaica, p. 107 (1881).—CORY, Bds. Haiti & San Domingo, p. 44 (1885); *ib.* List Bds. W. I. p. 10 (1885).—SHARPE, Cat. Bds. Brit. Mus. X, p. 176 (1885).

Hirundo (Progne) dominicensis BRYANT, Pr. Bost. Soc. Nat. Hist. XI, p. 94 (1866).

Progne subis var. *dominicensis* BD. BWR. & RIDGW. Hist. N. Am. Bds. I, p. 328 (1874).

Sp. CHAR. Male:—Entire upper surface, throat, and sides steel blue, showing purplish reflections in some lights; rest of underparts white; quills and tail dark brown, the feathers having a faint bluish tinge on the outer webs; crissum dull white; bill and feet black.

Female:—Upper surface as in the male; throat and sides ashy brown; otherwise resembling the male.

Length, 7; wing, 5.60; tail, 3.10; tarsus, .50; bill, .50.

HABITAT. San Domingo and Antilles.

Progne subis (LINN.).

Hirundo subis LINN. Syst. Nat. p. 192 (1758).

Hirundo purpurea LINN. Syst. Nat. I, p. 344 (1766).

Progne purpurea D'ORB. in La Sagra's Hist. Nat. Cuba, Ois. p. 94 (1840).—GUNDL. J. f. O. 1856, p. 3; *ib.* 1861, p. 328 (Cuba).—BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 306 (1860) (Cuba).

Progne cryptoleuca BAIRD, Rev. Am. Bds. p. 277 (1864).—GUNDL. J. f. O. 1872, p. 431.—CORY, List Bds. W. I. p. 10 (1885).

Progne subis var. *cryptoleuca* BD. BWR. & RIDGW. Hist. N. Am. Bds. I, p. 322 (1874).

HABITAT. Cuba.

GENUS *Petrochelidon* CABAN.

Petrochelidon CABANIS, Mus. Hein. I, 1850-51, p. 47.

Petrochelidon fulva (VIEILL.).

Hirundo fulva VIEILL. Ois. Am. Sept. I, p. 62 (1807).—MARCH, Pr. Acad. Nat. Sci. Phila. 1863, p. 295.

Cecaopsis fulva BOIE, Isis, 1828, p. 315.

Hirundo melanogaster DENNY, P. Z. S. 1847, p. 38.

Hirundo paciloma GOSSE, Bds. Jam. p. 64 (1847).—OSBORN, P. Z. S. 1865, p. 63.

Hirundo coronata LEMB. Aves Cuba, p. 45 (1850).—GUNDL. Journ. Bost. Soc. Nat. Hist. VII, p. 318 (1852).

Herse fulva Bp. Conspl. I, p. 341 (1850).

Petrochelidon fulva CAB. Mus. Hein. I, p. 47 (1850).—BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 306 (1860).—SCL. Cat. Am. Bds. p. 40 (1862).—ALBRECHT, J. f. O. 1862, p. 194.—BAIRD, Rev. Am. Bds. p. 291 (1864).—GRAY, Handl. Bds. I, p. 71 (1869).—SCL. & SALV. Nom. Avium Neot. p. 14 (1873).—GUNDL. J. f. O. 1874, p. 133; ib. Anal. Soc. Esp. Hist. Nat. VII, p. 198 (1878).—A. & E. NEWTON, Handb. Jamaica, p. 107 (1881).—CORY, Bull. Nutt. Orn. Club, VI, p. 152 (1881); ib. Bds. Haiti & San Domingo, p. 47 (1885); ib. List Bds. W. I. p. 10 (1885).—SHARPE, Cat. Bds. Brit. Mus. X, p. 195 (1885).

Petrochelidon paciloma BAIRD, Rev. Am. Bds. p. 292 (1864).—GRAY, Handl. Bds. I, p. 71 (1869).—GUNDL. J. f. O. 1874, p. 311.

Hirundo (Petrochelidon) fulva BRYANT, Pr. Bost. Soc. Nat. Hist. X, p. 252 (1866).

SP. CHAR. *Male*:—Throat and sides of the breast pale rufous brown, the color passing around the neck in a narrow line at the nape; belly and crissum dull white, the latter showing a rufous tinge; top of the head bluish black, the color nearly encircling the eye; forehead and rump dark rufous brown; back bluish black, streaked with white; wings and tail dark brown; bill and feet black.

The sexes are apparently similar.

Length, 4.70; wing, 4; tail, 1.85; tarsus, .40; bill, .27.

HABITAT. Antilles.

GENUS *Tachycineta* CABAN.

Tachycineta CABANIS, Mus. Hein. I, p. 48 (1850).

***Tachycineta bicolor* (VIEILL.).**

Hirundo bicolor VIEILL. Ois. Am. Sept. I, p. 61 (1807).—CORY, List Bds. W. I. p. 10 (1885).

Tachycineta bicolor GUNDL. J. f. O. 1856, p. 4; ib. 1861, p. 330 (Cuba); ib. 1874, p. 113 (Cuba).—CORY, Bds. Bahama I. p. 80 (1880).—SHARPE, Cat. Bds. Brit. Mus. X, p. 117 (1885).

Petrochelidon bicolor BREW. Pr. Bost. Soc. Nat. Hist. VII, p. 306 (1860) (Cuba).

Accidental in Cuba and Bahama Islands.

Tachycineta euchrysea (GOSSE).

Hirundo euchrysea GOSSE, Bds. Jam. p. 68 (1847).—MARCH, Pr. Acad. Nat. Sci. Phila. 1863, p. 295.—SCL. & SALV. Nom. Avium Neotr. p. 14 (1873).—CORY, List Bds. W. I. p. 10 (1885).—SHARPE, Cat. Bds. Brit. Mus. X, p. 170 (1885).

Herse euchrysea Bp. Bonsp. I, p. 34 (1850).

Petrochelidon euchrysea SCL. P. Z. S. 1861, p. 72; *ib.* Cat. Am. Bds. p. 39 (1862).—ALBRECHT, J. f. O. 1862, p. 194.

Callichelidon euchrysea BAIRD, Rev. Am. Bds. p. 304 (1864).—GRAY, Handl. Bds. I, p. 72 (1869).—A. & E. NEWTON, Handb. Jamaica, p. 107 (1881).

SP. CHAR. Male:—Entire upper surface including head bright golden green; a slight bluish tinge perceptible on the forehead, when held in the light; underparts white; wings and tail brown, showing a tinge of bronzy green on the upper surface.

Female similar to male.

Length (skin), 4.50, wing, 4.25; tail, 2.25.

HABITAT. Jamaica.

Tachycineta sclateri (CORY).

Hirundo euchrysea (var. *dominicensis*?) BRYANT, Pr. Bost. Soc. Nat. Hist. XI, p. 95 (1866).

Callichelidon euchrysea var. *dominicensis* GRAY, Handl. Bds. I, p. 72 (1869).

Hirundo sclateri CORY, Auk, I, p. 2 (1884); *ib.* Bds. Haiti & San Domingo, p. 45 (1855); *ib.* List. Bds. W. I. p. 10 (1855).—SHARPE, Cat. Bds. Brit. Mus. X, p. 171 (1885).

SP. CHAR.—Above bright bluish green, showing a golden color in some lights, becoming decidedly blue on the forehead; upper surface of wings and tail showing a tinge of dull blue, brightest on the tail; underparts pure white; primaries brown; bill and legs very dark brown.

The sexes are similar.

Length, 5; wing, 4.60; tail, 2.

HABITAT. San Domingo.

GENUS Chelidon FORST.

Chelidon FORSTER, Syn. Cat. Brit. Bds. p. 55 (1817).

Chelidon erythrogaster (BODD.).

Hirundo erythrogaster "BODD. Tabl. P. E. 45 (1873)."—CORY, List Bds. W. I. p. 10 (1885).—SHARPE, Cat. Bds. Brit. Mus. X, p. 137 (1885).

Hirundo americana LEMB. Aves Cuba, p. 44 (1850).

Hirundo rufa GUNDL. J. f. O. 1855, p. 3; *ib.* 1861, p. 328 (Cuba).—BREW. Pr. Bost. Soc. Nat. Hist. VII, p. 306 (1860).

Hirundo horreorum A. & E. NEWTON, Ibis, 1859, p. 66 (St. Croix); *ib.* Handb. Jam. p. 107 (1881).—SUNDV. Oefv. K. Vet. Alcad. p. 584 (1869) (St. Bartholemew).—GUNDL. J. f. O. 1872, p. 431 (Cuba).—LAWR. Pr. U. S. Nat. Mus. I, p. 455 (1878) (Guadeloupe).—CORY, Bds. Bahama I. p. 78 (1880).

Recorded from Bahama Islands, Greater Antilles, St. Croix and Guadeloupe, and St. Bartholemew.

GENUS Callichelidon BRYANT.

Callichelidon (BRYANT, MSS.) BAIRD, Rev. Am. Bds. p. 303 (1864).

Callichelidon cyaneoviridis (BRYANT).

Hirundo cyaneoviridis BRYANT, Pr. Bost. Soc. Nat. Hist. VII, p. 111 (1859).—BAIRD, Rev. Am. Bds. p. 303 (1864).—SALV. Ibis, 1874, p. 307.—

CORY, Bds. Bahama I. p. 79 (1880); *ib.* List Bds. W. I. p. 10 (1885).

Callichelidon cyaneoviridis GRAY, Handl. Bds. I, p. 72 (1869).—BD. BWR. & RIDGW. Hist. N. Am. Bds. I, p. 327 (1874).

Tachycineta cyaneoviridis SHARPE, Cat. Bds. Brit. Mus. X, p. 121 (1885).

SP. CHAR. *Male* :—Above velvet green, shading into steel blue, with purple reflections upon the rump and wings; a black stripe from the nostrils to the eye; underparts pure white; tail forked, the inner webs of the outer feathers edged with dull white.

Female :—Resembles the male, but the plumage much duller, and showing traces of dusky; bill and feet black.

Length, 6.40; wing, 4.40; tail, 3.10; tarsus, .42; bill, .15.

HABITAT. Bahamas.

Genus Clivicola FORST.

Clivicola FORST, Syn. Cat. Brit. Bds. 55 (1817).

Clivicola riparia (FORST.).

Hirundo riparia LINN. Syst. Nat. I, p. 192 (1758).—LEMB. Aves Cuba, p. 47 (1850).

Cotyle riparia Gundl. J. f. O. 1856, p. 5; *ib.* 1861, p. 330; *ib.* 1874, p. 114 (Cuba).—BREW. Pr. Bost. Soc. Nat. Hist. VII, p. 306 (1860) (Cuba). A. & E. NEWTON, Handb. Jamaica, p. 107 (1881).—CORY, List Bds. W. I. p. 10 (1885).

Cuba; Jamaica; probably wanders throughout the Antilles.

SOME BIRDS OF ARIZONA.

BY EDGAR A. MEARNS.

(Assistant Surgeon, U. S. A.)

ZONE-TAILED HAWK. *Buteo abbreviatus* CABAN.MEXICAN BLACK HAWK. *Urubitinga anthracina* (LICHT.)
(LAFR.)

My apology for associating the histories of two birds belonging to widely different genera is that much doubt and some confusion exists in the minds of ornithologists concerning the identity and status as North American birds of the two species under consideration.

The first notice of the Zone-tailed Hawk was from the pen of Cabanis, in 1848.* It was described and figured by Sclater, in 1858, as *Buteo zonocercus*, which name continued in vogue until Sharp,† reverted to Cabanis's original *B. abbreviatus*; and Mr. D. G. Elliot subsequently gave a handsome figure of it in his 'Illustrations of Birds of North America'. It was first taken within the United States by Dr. J. G. Cooper, who shot the specimen described in his 'Birds of California,' on the 23d of February, 1862, thirty miles north of San Diego, California, and five from the coast; but Dr. Coues first reported its capture in the United States, in the 'Proceedings' of the Philadelphia Academy, in 1866, he having taken a specimen on the Gila River, in Arizona, on September 24, 1854. The description of the adult Zone-tailed Hawk, by Mr. Ridgway, in 'North American Birds,' was based on a specimen taken by Dr. Coues, in the month of August, on the Hassayampa River, in Arizona. When the great work on North American birds, by Baird, Brewer and Ridgway, was published, in 1874, *Buteo abbreviatus* was still known as a bird of the United States only through the published accounts of Drs. Coues and Cooper, and was regarded as a very rare straggler over our border into Southern California and Arizona; but Mr. Brewster

* But Gray's *Buteo albonotatus* (*Isis*, 1847, p. 329) has been doubtfully referred here.

† Catalogue of Birds in the British Museum, Vol. I, p. 163.

extended its known North American range into Texas, in 1879, and described its nest and eggs, taken in Comal Co., in that State, by Mr. Werner. Later in the same year, Mr. F. Stephens described its breeding habits, as observed by him on the Gila River, in New Mexico. These records, to which reference will be made further on, give it quite an extensive breeding range across our southern border.

Mr. N. C. Brown noted its presence in Southwestern Texas, in the 'Nuttall Bulletin,' in 1882, and again recorded it from that State in 'The Auk' for April, 1884. Mr. Brewster, in Vol. VIII of the 'Bulletin of the Nuttall Ornithological Club,' described three specimens, taken at Tucson, Arizona, by Mr. F. Stephens, who ascertained that it breeds in that locality.

It is apparent, from the above data, embracing all of the records accessible to me in this remote quarter of the globe, that the status of *Buteo abbreviatus* as a bird of the United States is established beyond question; but with *Urubitinga anthracina* the case is different.

The Mexican Black Hawk's right to a place in the avifauna of the United States rests solely upon the authority of Mr. H. W. Henshaw, which I consider to be a very good foundation indeed; but as doubt has arisen respecting the accuracy of his statement that he had twice seen *Urubitinga anthracina* alive in Arizona, and that Captain Bendire had taken eggs believed to belong to this species at Tucson, Arizona, I suppose that this Hawk properly belongs in the category of challenged species in the list of American birds north of Mexico.

Mr. Henshaw's notice reads as follows: "Captain Bendire writes me that in 1872 he found this hawk breeding in Arizona, and obtained the nest and eggs. The bird was supposed by him to be the *Buteo zonocercus*, but has since been ascertained to be this species. It thus has a good claim to a place in our fauna, and may indeed be not uncommon in the southern part of the Territory, since two individuals were seen by us during the past season. While riding one day a short distance from Camp Bowie, one of these birds sailed past within a few feet, affording me an excellent opportunity for its identification. On a second occasion, while passing through a narrow cañon, about sixty miles north of Camp Lowell, another flew out from a large cottonwood, on one of the lower limbs of which it had been perching; it was

certainly not more than a dozen feet from my head. In each instance, the narrow white band across the tail, with the size and colors generally, establish its identity beyond a question. The flight is easy and powerful."

Upon the above authority and the same author's original announcement of the discovery, published in the 'American Sportsman' earlier in the same year (1875), the name of this splendid rapacious bird was enrolled upon our catalogues of North American birds. Nearly a decade had elapsed since this account, without any further advices of the occurrence of the Mexican Black Hawk in North America north of Mexico, when Mr. William Brewster wrote (Bulletin of the Nuttall Ornithological Club, Vol. VIII, 1883, p. 30) as follows: "Dr. Coues took a Zone-tailed Hawk on the Gila River, Sept. 24, 1864, and this, so far as I know [overlooking the specimen which furnished Mr. Robert Ridgway with the text for his description of the adult of this species in 'North American Birds,' Vol. III, 1874, p. 272], is the only identified Arizona specimen which has been previously announced. I cannot help thinking, however, that the bird which Captain Bendire found breeding in Arizona in 1872 really belonged to this species, as he at first supposed, and not to *Urubitinga anthracina*, as afterwards surmised by Mr. Henshaw. Nor is it improbable that the Black Hawks seen by the latter gentleman near Camp Bowie were also referable here."

This is clearly a case where "the doctors disagree"; but my residence in Arizona has enabled me to decide it. In the first place, what respecting the authenticity of Mr. Henshaw's record? The sagacity of that talented author and field collector is too well known to require comment; and the circumstantial manner in which he tells his experience, together with the fact that he took the pains to preface his article with an elaborate description of the species, which he tells us was "kindly furnished by Mr. Ridgway, who examined, for the purpose, a very large *suite* of specimens in the collection of the Smithsonian,"* and the circumstance that he immediately published an announcement of his discovery in the 'American Sportsman,' and again refers to it in his "Introductory Remarks" (page 141) as among the important results of his last season's work in Arizona, all go to show how

* The description, slightly altered and enlarged, was afterwards published in that author's 'Studies of the American Falconidae,' pp. 170, 171.

positive was his belief that the Black Hawks seen by him in different parts of Arizona were *Urubitinga anthracina*; and, on reading his article, after forming the acquaintance of both these Hawks, I have not the slightest doubt that he was correct, much as I envy him precedence in making the discovery.

Although the superficial resemblance in the color-pattern of these birds of different genera has occasioned error or doubt in identifying them, they may be readily distinguished by their generic characters; but, as North American specimens of *Urubitinga anthracina* have never been described, and the descriptions of the species are not always conveniently accessible, I here insert descriptions of both species for comparison, describing the nestling of *Urubitinga anthracina*, I believe, for the first time. For convenience of reference such synonyms are given as are pertinent to this paper.

Buteo abbreviatus CABAN. ZONE-TAILED HAWK.

Buteo abbreviatus CAB. Schomb. Guiana, III, 1848, p. 739.—SHARPE, Cat. Birds Brit. Mus. I, 1871, p. 163.—BROWN, Bull. N. O. C. VII, No. 1, Jan. 1882, p. 42.—BREWST. Bull. N. O. C. VIII, No. 1, Jan. 1883, p. 30.—BROWN, Auk, I, No. 2, April, 1884, p. 122.

Buteo zonocercus SCL. Trans. Zool. Soc. Lond. IV, pt. VI, 1858, p. 263, pl. 59.—COUES, Proc. Acad. Nat. Sci. Phila. 1866, p. 45.—COOPER, Birds Cal. 1870, p. 479.—COUES, Key, 1872, p. 517.—RIDGW. Hist. N. Am. Birds, III, 1874, p. 273.—BREWST. Bull. N. O. C. IV, No. 2, April, 1879, p. 80.—STEPHENS, Bull. N. O. C. IV, No. 3, July, 1879, p. 189.

DESCRIPTION.—*Adult male in breeding plumage* (No. 4048, New River, Arizona, May 16, 1885; E. A. M.). General color brownish black, glossed with dull metallic colors of gold, purple, steel-blue, and green; forehead and rictus white, mixed with black hairs; feathers of crown, neck, interscapular region, and breast white at base, but the white nowhere exposed; the breast with a few lateral white spots of irregular form. Tail black, narrowly tipped with ash above, more broadly below, with a white bar crossing it transversely; broadly banded near the end with hoary plumbeous, and more narrowly about the middle with the same color, which, except on the central pair, becomes pure white upon the concealed inner webs of the feathers above, and on both webs below; a series of spots upon the inner webs indicate still another caudal bar, which is not apparent above. The brownish black primaries are banded with deep black. Lining of wings black, some of the feathers spotted laterally with ashy white. Under surface of primaries dusky plumbeous, irregularly barred and mottled with grayish white and ashy. A few of the upper tail-coverts have small, concealed, ovate

white spots; and some of the under tail-coverts are faintly tipped or spotted with the same. The form is light, the legs slender. Four outer primaries have their inner webs cut. Wing-formula, 4, 5, 3, 2, 6, 7, 1. Tail of twelve feathers; slightly rounded, the amount of graduation between the outer and central pair being 25 mm. The primaries extend 150 mm. beyond the secondary remiges. *Dimensions.**—Length, 497; alar expanse, 1240; wing, 397; tail, 230; chord of culmen and cere taken together, 34; cere, 16; culmen, 22; gape, 36; tarsus, 70; middle toe and claw, 62; toe alone, 45. The hind claw is longest, measuring 25 mm.; the inner and middle claws are equal, measuring 23 mm. each; and the outer claw measures but 17 mm.

Adult female in breeding plumage (No. 4007, New River, Arizona, May 16, 1885; E. A. M. Mated with the above, and parent of egg described below). This specimen closely resembles the male just described, except that there is an additional tail-bar, plainly indicated above; and the basal white of plumage is exposed upon the breast. The tail is somewhat more rounded, the amount of graduation being 19 mm.; and the exposed tail-bars are tinged with brown. *Dimensions.*—Length, 530; alar expanse, 1315; wing, 420; tail, 235; culmen and cere taken together, 36; cere, 17; culmen (chord taken from cere), 24; gape, 40; tarsus, 77; middle toe and claw, 66; middle toe alone, 48. Claw of hallux, 27; inner claw, 26; middle claw, 23; outer claw, 19. Another adult female (No. 4050, taken on the Agua Fria at Swilling's Ranch, Arizona, May 17, 1885. E. A. M.; parent of eggs described below) does not differ appreciably. It presents the following dimensions: Length, 540; alar expanse, 1350; wing, 430; tail, 245; culmen and cere, 36; cere, 17; culmen, 25; gape, 41; tarsus, 76; middle toe and claw, 70; toe alone, 49. Claw of hallux, 27; inner claw, 25; middle claw, 22; outer claw, 17.

Young male (No. 2945, Verde River, near Fort Verde, Arizona, May 28, 1884; E. A. M.). Differs from the adult in having the exposed portion of the tail hoary brownish gray above, crossed by ten narrow black bars, the subterminal one being much the widest; upon the concealed inner webs the light color fades to white, sharply contrasted with the black bars, which do not usually correspond upon the two webs of the feather. The specimen also exhibits much more white; the feathers of the top of the head, back, scapulars, and ventral surface are pure white at base, the white bases being considerably exposed upon the nape, interscapulars, and breast. The white forms a series of lateral spots upon the webs of the scapulars and neighboring coverts, upper and lower tail-coverts, and flanks. The lining of the wings is black, with the longest feathers regularly spotted with white. Under surface of rectrices and remiges hoary grayish, fading to pure white upon the inner webs, except the terminal portion of the outer primaries, which is dark; rectrices barred with dusky, corresponding to the black dorsal bars; remiges barred or spotted with the same. *Dimensions:*—Length, 498; alar expanse, 1245; wing, 400; tail, 230; culmen and cere, 33; cere, 15; culmen, 22; gape, 36; tarsus, 66; middle toe and claw, 60; toe

* All measurements are given in millimetres.

alone, 46. Claw of hallux, 25; inner claw, 23; middle claw, 22; outer claw, 18. Graduation of tail, 18.

In all of the above specimens the soft parts were colored as follows: Irides, hazel. Bill pale blue at base, shading into plumbeous black at tip. Cere and edge of mouth greenish-yellow. Tarsi and feet lemon yellow. Claws plumbeous-black.

HABITS.—Late in the month of March, 1884, I first beheld the wide valley of the Rio Verde, with its tortuous stream winding in zigzags, bounded by a fringe of cottonwoods which, at that season, were destitute of foliage or flower. We gazed with keen interest upon the panorama before us, as the driver of our ambulance pointed out in the distance a series of low, whitewashed sheds surrounding a quadrangle and flanked by some adobe walls and haystacks, which he said was the post of Fort Verde, which was to be our station and home for an indefinite period.

The steep and rugged cañon through which we were driven was wooded with evergreens of several species, and wild flowers of bright hues were already unfolding. The manzanitas exhaled a delicious fragrance, and their pretty pink bloom heightened the effect of these handsome shrubs, which grew luxuriantly upon the hillsides. Along the beautiful stream that flows through the cañon were deciduous trees, among them ash, box-elder, and the familiar sycamore; but the wide expanse before us was apparently destitute of any vegetation save scanty grass in places, and the fringe of bare cottonwoods marking the course of the Verde River. A white bluff of limestone arose upon the opposite side of the valley, and was broken and carved into fantastic shapes by deep cañons furrowing it.

It was a dismal and desolate outlook truly, but possessed of the beauty of wild loneliness. A few days' residence at the Post more than reconciled us to our surroundings, and we soon discovered that Nature had here scattered her treasures with lavish prodigality, though veiling them from the vulgar gaze never so cleverly. Once out of 'Copper Canon,' the tired mules sped towards the Post, scattering noisy flocks of Mexican Shore Larks and scurrying troops of Gambel's Plumed Quails. As we rounded the corner of the corrals we witnessed an exhibition of the prowess of the Prairie Falcon in capturing a Pigeon. The ensuing months were spent in riding over the neighboring country, and every day brought its new discoveries in animal and plant life. The cottonwoods bloomed and then unfolded their wealth of rich

green leaves; mesquites, before scarcely noted, also leaved and bloomed, and an almost endless succession of handsome annuals sprang from the dun-colored soil, until the inflorescence was as marked as the seeming lack of vegetation at first. As the season advanced, the temperature steadily rose, until we resorted to the grateful shade of the cottonwoods beside the river from necessity, during the hottest hours of the day; and there I was not long in discovering the two black Hawks which are the subject of this writing.

One day, when examining the work of beavers beside the Verde, a Zone-tailed Hawk emerged from the dark shade of a neighboring belt of cottonwoods, moving straight towards me on motionless wings and passing within a few feet, scanning the water beneath with intent interest and paying no attention to me, but moving its head with a restless side movement. Later in the day I secured a handsome example as it flew overhead, and thereafter frequently observed them throughout the entire year beside the Verde River, where they capture lizards, frogs, fishes, and other desirable articles of raptorial diet.

I never experienced any difficulty in distinguishing between it and the melanistic form of Swainson's Hawk; when in hand, specimens may be readily diagnosed by the presence of but three emarginated outer primaries in *Buteo swainsoni*, instead of four as in *B. abbreviatus*; the color pattern of the tail, and the white base of the feathers of the latter are likewise diagnostic.

The Zone-tailed Hawk is of quite general distribution in Arizona, in the vicinity of the streams which it frequents. I have seen it near Prescott, at a considerable elevation (about 6000 feet), and at various points between there and the city of Tucson, in the southern part of the Territory, where I found it quite numerous during the past spring.

I never succeeded in detecting the nest of this Hawk in the Verde Valley, and therefore considered myself fortunate in finding two nests elsewhere during the past spring. It was with a peculiar sensation of pleasure and relief that I rode my hunting horse 'Daisy' into the cool shade of some beautiful cottonwood trees upon the banks of the New River, Arizona, on the 16th of May, 1885, and filled my canteen in the stream and drank, while my brute companion slaked her thirst after the manner of her equine kind. We had travelled nearly a thousand

miles, and were now within a few days' march of home. Few trees had rested our eyes from the glare of the tropical sun, or had shielded us from the fervid heat of its piercing rays, upon the scorched desert wilderness that we had traversed. Here was shade, and the sweet sound of a running stream, upon whose margin a handsome nosegay might have been easily plucked. Where could a traveller find a more pleasant resting-place? Soon 'Daisy' was munching sweet herbage upon the shore, and perchance was thinking of the good barley soon to be enjoyed in her snug stall in the Quartermaster's corral at Fort Verde, whilst my own thoughts had wandered to very nearly the same locality, when both were interrupted by the shrill whistle of a Hawk that came gliding towards me through the dark shadows of the dense foliage. A quick shot brought the bird to my feet. I immediately mounted my horse, intent upon discovering the location of the domicile of the Zone-tailed Hawks, whose haunts I had unwittingly invaded; crossing the stream I rode a little distance upon the opposite side and, dismounting, scanned every tree closely in quest of the nest. I was not long in discovering a bulky nest, fixed in the fork of a large cottonwood branch, across the stream, at an elevation of about twenty-five feet, and the female parent standing upon it. She gave a loud whistle and came skimming towards me, and was also shot. The nest was coarsely built of rather large sticks, with considerable concavity, lined with a few cottonwood leaves only, and contained a single egg, of a rounded-oval shape, slightly smaller at one end, in color clear bluish white, immaculate, and measuring 55×43 mm. On dissecting the female parent, I discovered that two would have been the full complement for this pair.

The morning following the day on which the nest just described was discovered found me encamped on the Agua Fria. The cañon through which this stream flows, below Swilling's Ranch, is one of the prettiest places I have seen in Arizona. As our march was to be a short one, there was no necessity for haste, and at any rate I could not resist the temptation to follow this enticing stream, which I did, for a distance of about two miles. The stream is here quite large, flowing over an even bed of glittering sand for a mile, occasionally dividing to join lower down, enclosing in the loop a grove of tall cottonwoods, edged with a growth of smaller willows, and fringed with arrowwood and vines.

The rocky sides of the cañon were covered with cacti of diversified shapes, from the gigantic *Cereus* to the *Echinocacti* and *Opuntiae*. Beautiful flowers grow beneath the tall cottonwoods, which here form the handsomest groves that I have yet seen. The cañon echoed the voices of hundreds of feathered songsters, and the hum of insects and countless Hummingbirds filled the air. Flocks of beautiful White-winged Doves drank upon the sandy brink and then betook themselves to the dense foliage overhead, where their loud and mournful cooing filled the air. An occasional glimpse of the gorgeous plumage of the Saint Lucas Cardinal was obtained, and shining Phainopeplas darted after insects from the sides of the cañon.

In the early morning I visited this sylvan solitude, and could not abstract myself until the morning was far spent; nor was the time idly employed. I found a pretty Thrush that was new to me, and observed the nesting habits of several rare birds.

Here I again found the Zone-tailed Hawk. A female was shot as she flew screaming at me, and the nest was soon found in a cottonwood near by. The male parent sat upon the eggs, and flew away when I got close up to the tree and shouted. It disappeared after circling over the cañon a few times and did not return while I was there, although I spent several hours in the vicinity. I climbed with vast exertion to the nest, which was built in a fork, about fifty feet from the ground, and was exactly like the first one. It was composed of sticks, lined only with green leaves of cottonwood attached to the twigs. It was rather concave, and contained two eggs, which differ considerably in size, shape, and markings from those first found; but there can scarcely be any doubt about the identification, for the female parent was shot close to the nest, while the other bird was distinctly seen when flying from it, and was black, having its tail barred with white below. Perhaps, however, it is safest to say that these eggs are not absolutely free from the suspicion of being those of *Urubitinga anthracina*, as the parent seen to leave the nest was not shot. They are oval, considerably smaller at one end; ground-color white, with yellowish weather-stains in spots. One measures 63×45 mm. It is finely sprinkled with dark sepia-brown specks, and a few paler brown and lavender spots, having a smearable granular appearance. All the marks are most numerous at the large extremity. The other measures 61×43 mm. It is

evenly blotched with very pale yellowish brown and lavender. Both contained large embryos and were emptied of their contents with difficulty. Mr. Brewster describes eggs taken from a nest built in a cypress tree on the banks of Guadalupe River, in Comal County, Texas. They are "marked with blotches of reddish brown upon a dull white ground." These blotches in one specimen occur most thickly about the larger end, where they tend to form a nearly confluent ring, while in the other specimen the markings are most numerous about the smaller extremity. He observes that "although the parent birds belonging to this nest successfully eluded all attempts to capture, their identity can scarcely be doubted." The specimens measured (reducing to millimeters) 53.09×38.86 mm. Mr. F. Stephens also found this bird breeding on the Gila River in New Mexico, about twenty miles from the Arizona line, and obtained one of the parents. The nest was placed in a very large cottonwood tree, in the mouth of a cañon, and contained one egg, having a large embryo which could not be extracted. The nest was quite bulky, composed of twigs, lined with strips of the inner bark of the cottonwood. The egg was marked with large reddish brown blotches, irregularly distributed on a dirty white ground.

From the above description it will be observed that the variation in the eggs of this species, both in size and color-markings, is considerable, but possibly not greater than in other species of the genus.

**Urubitinga anthracina (Licht.) Lafr. MEXICAN
BLACK HAWK.**

"*Falco anthracinus* LICHT." NITZSCH, Pterylographie, 1840, p. 83.

Urubitinga anthracina LAFR. Rev. Zool. 1848, p. 241.—HENS. Zool. Expl. W. 100 Merid. 1875, pp. 420, 141 (introductory notes).—RIDGW. Studies Am. Falconidae<Bull. U. S. Geol. and Geogr. Surv. Terr. April 1, 1876, p. 170.—BREWST. Bull. N. O. C. VIII, No. 1, 1883, p. 30.

DESCRIPTION.—*Adult in breeding dress* (No. 4103, ♀ ad., June 19, 1885, Fossil Creek, Arizona. E. A. M.; parent of nestling described below). General color brownish-black, slightly glossed with metallic reflections of green, gold, and purple, with a glaucous cast, most pronounced upon the interscapular region and nape; lores, ophthalmic region, and a triangular patch extending backward from the angle of the mouth white, but

the loral region mixed with black hairs, and the feathers of the post-angular patch having black shafts and gradually blending apically to blackish behind; upper and under tail-coverts narrowly tipped with white; tail jet black, white at extreme base, narrowly tipped with white, and crossed about the middle by a broad continuous band of pure white, of variable pattern on the individual feathers, and with a few irregular, small white spots upon the inner webs between the white central and basal bands, barely indicating an additional white bar; shafts of rectrices black above excepting the two central ones, which are white, lined centrally with black, below chiefly white in the area corresponding to the white bar, elsewhere black; feathers of the nape and interscapular region white at base, the rest of the body feathers being blackish throughout; tibial plumes narrowly tipped with rusty white, not filamentous; feathers of the edge of wing narrowly edged with white; lining of wings black, a few feathers perceptibly edged with pale rufous; remiges beautifully mottled beneath with white on the inner and gray on the outer webs; above the outer webs are mottled with hoary grayish, the mottling changing upon the inner webs to rusty ochraceous and whitish; quills white at base, shading to black; scapulars indistinctly edged with brownish. Irides reddish-hazel. Cere, mastax and tomia orange. Bill plumbeous black, orange at extreme base. Tarsi and feet yellow; claws plumbeous black. *Dimensions.*—Length, 555; alar expanse, 1315; wing, 413; tail, 245; culmen and cere (chord), 40; cere, 15; culmen, 28; gape, 42; tarsus, 91; middle toe and claw, 62; middle toe alone, 47. Claw of hallux, 27; inner claw, 52; middle claw, 22; outer claw, 17.

A specimen in fresh autumnal plumage (No. 3354, ♀ ad., Sept. 26, 1884, Verde River, near Fort Verde, Arizona; E. A. M.) differs from the above chiefly in having the glaucous tinge of the plumage much more distinct, in this respect affording an exact parallel to the Black Crested Flysnapper (*Phainopepla nitens*) in corresponding plumages. The glaucous extends to all of the dark plumage except the tail. The plumage being unworn, the pattern of the apices of the feathers is better exhibited; the terminal band of white on the tail is wider, the light edging to the tail-coverts, tibial plumes, and edge of wing more pronounced, and some feathers of the chest and interscapular region are seen to have rusty edgings, while upon the chin and cheeks are scattered a few white filamentous feathers, and the concealed bases of the feathers of the nape and interscapulars are rusty tinted. The mottling of the remiges is darker—chiefly gray, with little white or rusty. The white spots upon the inner webs of the rectrices, mentioned above as indicating an additional white bar, intermediate between the basal and broad central white bands, are strongly indicated and extend to both sides of the shafts. The feathers at front of forehead are white at extreme base. Irides hazel. Bill pale yellow at base, shading through light plumbeous to blue-black terminally. Cere, mastax, and tomia pure bright yellow. Tarsi and feet yellow; claws blue-black. *Dimensions.*—Length, 560; alar expense, 1330; wing, 400; tail, 262; culmen and cere, 40; cere, 16; culmen, 28; gape, 42; tarsus, 88; middle toe and claw, 66;

middle toe alone, 47. Claw of hallux, 27; inner claw, 25; middle claw, 24; outer claw, 18.5.

Nestling (No. 4104, ♂ juv., June 19, 1885, Fossil Creek, Arizona: E. A. M.). Covered with dense woolly down, nearly white on head and breast, passing into grayish posteriorly upon the head, throat, sides of breast, tibiae, and back; the feathers are just emerging from the soft down, while the remiges and scapulars are grown out enough to show the color-pattern, and the quills of the rectrices are about 70 mm. (2½ inches) in length, only the terminal one-fourth of their webs being expanded. The exposed feathers bear terminal hairy filaments and tufts of down. The eyelids are clothed with fine black hairs. The feathers discernible upon the throat are black. The paroties and feathers of the back, crown, breast, and flanks are brownish black, edged or tipped with ochraceous; those upon the outer side of the tibiae are handsomely barred with black and ochraceous; the remiges, wing-coverts, and scapulars are brownish black, the wing-coverts, scapulars, and some of the remiges being edged and tipped with rusty-fulvous; the secondaries with lateral ovate spots of ashy-gray, tinged with rusty, those upon the inner webs often wholly rusty. The terminal upper tail-coverts are edged with pure white, as in the adult; and the white terminal bar across the rectrices is likewise strongly marked, but tinged slightly with ochraceous. Irides brownish gray; cere greenish yellow; tarsi and toes yellow; claws plumbeous black; bill dusky plumbeous. In this species the form is very heavy and powerful, the body weighing twice as much as that of *Buteo abbreviatus*; this with the elongated bill and tarsi, together with the broad white band across the middle of the tail, will serve readily to distinguish it from that species.

My specimens differ from those examined by Mr. Ridgway in having but four outer primaries cut, while the fifth is shallowly emarginated—less so than in *Buteo borealis*—the sixth being perfect in outline. The tail is nearly square, the central rectrices extending only from 9 to 11 mm. beyond the outer pair.

HABITS.—When hunting along a sluice of the Verde River, beneath a dense growth of willows and cottonwoods, I first discovered the Anthracite or Mexican Black Hawk, perched among the thickest foliage of a low willow overhanging the shallow water. The imperfect view obtained as it flew off through the trees led me at first to suppose that it was an immature Golden Eagle, a species that I had several times encountered thereabouts in similar situations. A snap shot proved unsuccessful, as was the case on several subsequent occasions, and, although I frequently saw them along the river, it was long ere I succeeded in procuring a specimen. Always extremely shy, they were usually found hidden in the foliage near the water in some low situation whence, when surprised, they generally managed

to escape through the foliage of the cottonwoods without affording a good opportunity for a shot. Their flight is swift and powerful. Occasionally one was seen eating a fish, upon the sandy margin of the river. They were present throughout the summer, but departed in the autumn, my absence in the field during the months of October and November having prevented me from determining the date of departure.

On the 26th of March, 1885, I found one of these Hawks upon the Agua Fria, about thirty miles southwest of Fort Verde, at a considerably higher altitude; and on Oak Creek, a mountain stream thirty miles north of Fort Verde, in the foothills of the San Francisco Mountains, I wounded an immature example on the 12th of August of the same year, it having probably been reared on that stream, which abounds with trout and other fishes.

On the 19th of June, 1885, Captain T. A. Baldwin and I set out to visit Fossil Creek, thirty miles east of Fort Verde, with an escort of two soldiers. We carried some rations and mining implements, packed upon a mule and two burros. We found the trail to the cañon without difficulty, but when nearly at the bottom took the wrong fork of the trail, which finally led us to the spring and forks of Fossil Creek, both branches of which we explored for several miles, finding tracks of wolves, bears, deer, raccoons, and beavers. A pair of Mexican Black Hawks were found at the forks of the stream close to the place where we had pitched our camp. Their loudly whistled cry is different from that of any bird of prey with which I am acquainted, but is difficult to describe, although rendered with great power.

They circled about us a few times, then retreated to some tall piñons upon the hillside, where they continued to cry vehemently until I essayed to force my way through the thick scrub oak towards them, when both birds flew, with loud screams, to a tall pine tree down the stream, where I succeeded in obtaining a long shot at the male bird, which, although mortally wounded, flew beyond my reach before dropping to the ground. His mate flew to the piñons far up the steep bank of the cañon, out of reach, and continued screaming constantly, following me up the cañon. Towards nightfall I came up with Captain Baldwin, and he told me that he had discovered the nest of my *rara avis* in a tall cottonwood down the cañon, and said if we hastened we might procure the eggs before dark and secure the other parent.

The nest was built in a cottonwood tree in the same grove in which we first found the birds. The nest had evidently been the birthplace of many generations of these Hawks, for it measured four feet in depth by two feet in width. It was lined with a layer of cottonwood leaves several inches deep, was very slightly concave, and composed of large sticks, much decayed below, showing that they had been in position for a number of years. The nest was about thirty feet from the ground. The female parent remained too shy to return to the nest until I began to climb the tree. At first I attempted to ascend by means of some grapevines, which gave way; then I managed to reach the upper part of the huge bole by swinging from a tall, slender box-elder tree, and scrambled with much exertion to the lowest branch. Meanwhile the Hawk had shown much uneasiness, fluttering in the air and screaming lustily. As I approached her treasure her parental solicitude overcame her terror and she sailed over the tree-top. I saw the gun at the Captain's shoulder and feared he would miss; but he wisely held his fire until the bird wheeled and rushed directly toward me, when a well directed shot dropped her just at his feet. A minute later I reached the nest and discovered a single half grown nestling, having the quill-feathers webbed terminally, and leaden gray down covering the greater part of the body. It fought fiercely, and evinced great pluck and ability to defend itself. The wounded parent was also savage, and tried to reach its assailant. After it was dispatched, the Captain proposed that we should attempt to find my wounded Hawk; but the locality was too dangerous, so we abandoned it with regret.

LIST OF BIRDS OBSERVED IN SUMMER AND FALL ON THE UPPER PECOS RIVER, NEW MEXICO.

BY H. W. HENSHAW.

[Concluded from Vol. II, p. 333.]

30. **Poecetes gramineus confinis.** WESTERN GRASS FINCH. — A single individual was secured Sept. 20. It was doubtless merely a migrant which had strayed from its proper territory lower down on the plains.

31. *Zonotrichia leucophrys*. WHITE-CROWNED SPARROW.—Present only as a rare migrant, it being too far south for the species to breed.

32. *Zonotrichia intermedia*. RIDGWAY'S SPARROW.—Rather common as a migrant. None of course breed, as none are known to do so within the United States.

33. *Spizella socialis arizonæ*. WESTERN CHIPPING SPARROW.—An abundant summer resident. Very abundant in the weed patches Sept. 8. Up to this time not a single bird had been seen in the fall dress, all being in the plumage of the young, *i. e.*, streaked beneath. Later individuals in the fall plumage became more common.

34. *Junco caniceps*. GRAY-HEADED SNOWBIRD.—This is one of the commonest summer residents found in the mountains, and occurs everywhere throughout the timber belt above an altitude of 6000 feet. The old birds were leading their broods about in the spotted plumage at the time of our first arrival, July 18, and the species continued to be equally common up to the last of October, the places of such birds as migrated further south being filled by others from points further north.

35. *Junco oregonus*. OREGON SNOWBIRD.—Though by no means so numerous as the bird just named, this Snowbird became pretty common after October 1, and in every flock of Snowbirds there was a fair sprinkling of this species, to be recognized from its comrades by its stouter form and darker colors.

36. *Junco annectens*. PINK-SIDED SNOWBIRD.—Made its appearance a few days later than *oregonus*, and not in such numbers. In a flock of 200 Snowbirds, perhaps 125 would be *caniceps*, 50 *oregonus*, and 25 *annectens*. These figures represent about the average. Of the three, *oregonus* is by far the greater wanderer. So far as known it does not breed anywhere east of the Sierras; yet in fall it is found in almost every flock of Snowbirds in the region between that chain and the main ridge of the Rocky Mountains, and as far south as the Mexican border. Neither of the other species go so far south, or are dispersed longitudinally to anything like the same extent.

37. *Peuæa cassini*. CASSIN'S FINCH.—Curiously enough a single specimen of this bird was taken close to the banks of the Pecos. No locality could be less suited to its habits, and it evidently was a mere straggler from the plains below.

38. *Melospiza lincolni*. LINCOLN'S FINCH.—Evidently does not occur in summer. The first was taken Sept. 12, after which date it became tolerably numerous in the weed patches.

39. *Pipilo maculatus megalonyx*. SPURRED TOWHEE.—Uncommon. A pair or two passed the summer in the brush along the Pecos.

40. *Pipilo chlorura*. GREEN-TAILED FINCH.—Also uncommon. A single brood was seen in the little valley below our camp, and a few stopped on the migration.

41. *Pipilo fuscus mesoleucus*. CAÑON TOWHEE.—Not found so high up in the mountains as our camp, but extremely common at Glorieta, on the railroad, and thence following up the river for some distance into the foothills.

42. *Passerina amoena*. **LAZULI FINCH**.—Shot a single individual Aug. 8, the only one seen.

43. *Scolecophagus cyanocephalus*. **BREWER'S BLACKBIRD**.—A few made their appearance during the fall migration.

44. *Corvus corax carnivorus*. **RAVEN**.—Rather common; undoubtedly breeds in the higher parts of the mountains.

45. *Corvus frugivorus*. **COMMON CROW**.—A few were seen in October; apparently does not breed.

46. *Picicorvus columbianus*. **CLARKE'S CROW**.—It is doubtful if this species breeds as low as the elevation of our camp, 7800 feet. It unquestionably, however, breeds on the high ridges and mountain sides, and becomes numerous at lower altitudes among the pines, early in the fall.

47. *Gymnocitta cyanocephala*. **MAXIMILIAN'S JAY**.—This species appears never to get up among the pine woods. It is, however, abundant in the piñon groves about fifteen miles down the river, where it is a constant resident.

48. *Cyanocitta stelleri macrolopha*. **LONG-CRESTED JAY**.—This Jay is extremely numerous all through the pine region, where it is a constant resident.

49. *Perisoreus canadensis capitalis*. **WHITE-HEADED JAY**.—Up to October 27 this bird had not descended to the altitude of our camp, about 8000 feet. It breeds high up in the mountains in the spruce timber, and does not descend lower until heavy snows compel it to wander in search of food. It is very common.

50. *Contopus borealis*. **OLIVE-SIDED FLYCATCHER**.—Rather common as a summer resident. Were it not for its loud, piercing note this species would easily be overlooked, as it frequents the higher stubs and does all its insect hunting from them.

51. *Contopus richardsoni*. **WESTERN WOOD PEWEE**.—Numerous all through the pine region.

52. *Empidonax flaviventris difficilis*. **YELLOW-BELLIED FLYCATCHER**.—Rather common in the brush along the water-courses. Nests on ledges of rock. Saw the young accompanied by the parents July 19.

53. *Empidonax obscurus*. **WRIGHT'S FLYCATCHER**.—Not common. Occurs as a summer resident.

54. *Selasphorus platycercus*. **BROAD-TAILED HUMMER**.—Extremely numerous; young birds were noticed August 1, and by the 10th they became common. By August 1 the males of this species began to get less numerous, and by the 10th there were none; in fact, I saw very few after that date. This is an extremely interesting fact. Wherever I have been in the West, and for that matter in the East also, I have always been led to wonder at the apparent absence of males early in fall in localities where the females and young were very numerous. The observations I was able to make here solved the problem to my satisfaction. The truth appears to be that *immediately* upon the young leaving the nest the males abandon their summer limits and at once set out for their winter quarters, leaving the females and young to follow at their convenience.

In this locality at least there is an evident reason for this. Just about this date the *Scrophularia*, which is the favorite food plant of the Hummers, begins to lose its blossoms, and in a comparatively short time the flowers give place to the seed pods. Though there are other flowers which are resorted to by the Hummers, particularly several species of *Penstemon*, they by no means afford the luxurious living the former plant does. It seems evident, therefore, that the moment its progeny is on the wing, and its home ties severed, warned of the approach of fall alike by the frosty nights and the decreasing supply of food, off go the males to their inviting winter haunts, to be followed not long after by the females and young. The latter—probably because they have less strength—linger last, and may be seen even after every adult bird has departed.

55. *Selasphorus rufus*. RUFOUS-BACKED HUMMER.—The number of representatives of this and the preceding species that make their summer homes in these mountains is simply beyond calculation. No one whose experience is limited to the Eastern United States can form any adequate idea of their abundance. They occur from an altitude of about 7500 feet far up on the mountain sides, as high up, in fact, as suitable flowers afford them the means of subsistence. They are most numerous at an altitude of from 8000 to 9000 feet. During the entire summer they frequent almost exclusively a species of *Scrophularia* which grows in clumps in the sunnier spots of the valleys. From early dawn till dusk the Hummingbirds throng around these plants intent in surfeiting themselves on honey and the minute insects that the honey attracts. The scene presented in one of these flowering areas is a most attractive one. Males and females all flock to the common feeding ground, and as the Hummers, especially of the Rufous-backed species, are pugnacious and hot tempered in the extreme, the field becomes a constant battle-ground whereon favorite flowers and favorite perching grounds are contested for with all the ardor that attaches to more important conquests. The fiery red throat of the Rufous-backed Hummer is an index of its impetuous, aggressive disposition, and when brought into conflict with the other species it invariably asserts its supremacy and drives its rival in utter rout from the fields. Nor do the males of this species confine their warfare to their own sex. Gallantry has no place apparently in their breasts, and when conquest has put them in possession of a perch near a clump of flowers they wage war on all comers, females as well as males.

Nor is the pugnacity of this Hummingbird limited to attacks on other species. The presence of a male of its own kind is sufficient to arouse it to the highest pitch of fury, and should the contestants be equally matched they will seize each other by the bill and, using their wings as offensive weapons, fall to the ground, roll over and over in fierce strife until exhausted, or until one is worsted, when he is off like a bullet for less dangerous hunting grounds, followed by the exulting victor, who, however, soon gives over pursuit and returns to the perch he has so well won, to preen his disordered plumage and make ready for a fresh contest.

When the attack is urged against the males of the Broad-tailed species

the contest is less fierce, the latter species usually abandoning the ground in hot haste. The latter result always follows the assault of a male upon the females who, if less valiant in battle, are scarcely less backward when it comes to the assertion of their rights against intruders of their own sex. The rivalry the females display is not less marked if the battles it prompts are less fierce than when the males are engaged; occasionally the females will fight with all the ardor displayed by the males. The mimic contests thus hinted at rather than described—for the fury and spirit displayed in their battles must be seen to be appreciated—are continued all day long, and were the strength of the combatants at all proportionate to their fury the problem of Hummingbird life would simply resolve itself down to a question of the survival of the strongest. But the tiny strength of these pygmies, through backed by never so much warlike spirit, is scarcely sufficient to detach a feather from each other's gleaming bodies; and even at the close of the season the male birds show little wear and tear, and are in prime condition as regards their plumage.

If they have occasion to fear each other—and sometimes I have thought they fight merely for the pure fun of it—they fear nothing else. About our camp, where were a few clumps of the *Scrophularia*, they were especially fearless, and provided one remained reasonably quiet they would approach within two or three feet. When in such proximity their sharp eyes were constantly on the watch, and a hostile movement sent them away like streaks of flame. By gradual approach, however, I was able on several occasions to strike one down with my hat and secure it uninjured before it recovered either presence of mind or strength to get on wing.

Some idea of the number of Hummingbirds in this locality—and in this respect this whole mountain area is alike—may be gained from the statement that in a single clump of the *Scrophularia* I have counted eighteen Hummers, all within reach of a ordinary fishing rod. There was scarcely a moment in the day when upwards of fifty could not be counted within the area of a few yards in any of the patches of this common plant.

As to their nesting, it is a curious and almost unaccountable fact that notwithstanding their great numbers we found but a single nest, and this after it was deserted. Inquiry among the settlers showed that they had never chanced upon their nests, and I judge that the greater part nest, as I found to be the case in Arizona, in the upper limbs of the pines; occasionally they nest lower. The one I found was on a dead aspen, not more than ten feet from the ground. At the time when they are building their nests may be readily found. One has only to follow the birds straight to their nesting-sites as they bear away material in the shape of conspicuous tufts of cottony down from the willows.

It seems as though *S. rufus* must breed rather less abundantly in this locality than *S. platycercus*; at all events, while the former was much less common at and for a considerable time after the date of our arrival, by August 1, when the males of *S. platycercus* had about disappeared, the

males of the former species were more numerous than ever. This fact is attributed to a migration from somewhere further north, though this locality is, in truth, about the most northern limit of the species in the Rocky Mountains.

A single *S. rufus* was seen September 15. It was the last bird of the season.

56. **Stellula calliope.** CALLIOPE HUMMINGBIRD.—This, the most diminutive of our Hummers, is rather numerous in summer in the locality in question, much further north than which it does not go. The species has not yet been detected in Colorado, though I doubt not but that the higher mountains of the southern portion of that State afford a summer home for some of them. It is a curious fact in connection with the history of this species, as well as that of the *S. rufus*, that while both of them range far to the northward in the Sierra Nevada, reaching Washington Territory, and even going beyond into Alaska, they yet decline to visit even the middle portion of the Rocky Mountains, but confine their range to their southern parts. The Calliope Hummer is, as compared with the other species mentioned, a rare bird. It is also much less obtrusive, and in the contests of its larger neighbors it takes no part. When assailed, as it promptly is by the other kinds, it at once darts away to another spot where it can feed without molestation. It appears to be timid in every way, so much so that it is not an easy bird to collect. An utterly unaccountable fact noticed in connection with this species was the apparent rarity of females. Up to August 10 I had seen perhaps half a dozen, though constantly on the watch for them, while I had certainly seen not less than ten times that number of males. Subsequent to that date I saw a few more, but nothing like the number of males.

By September the young were numerous in certain localities, notably in a large sunflower patch.

57. **Cypseloides niger borealis.** BLACK SWIFT.—A single one was seen in September, evidently migrating.

58. **Phalaenoptilus nuttalli.** POOR-WILL.—Evidently a rare species in this particular locality. Two only were obtained. This species is extremely local and may be abundant in one locality and entirely wanting a few miles away.

59. **Picus villosus harrisi.** HARRIS'S WOODPECKER.—Numerous as a summer resident.

60. **Picus pubescens gairdneri.** GAIRDNER'S WOODPECKER.—Not uncommon, though much less common than the preceding, which, indeed, appears to be the case almost everywhere where found.

61. **Picoides tridactylus dorsalis.** STRIPED-BACKED THREE-TOED WOODPECKER.—Rather common as a resident. Inhabiting the pine woods comparatively little, but frequenting the stretches of dead and fire-blackened timber.

62. **Sphyrapicus varius nuchalis.** RED-NAPED WOODPECKER.—Common as a summer and fall resident. Lives entirely among the deciduous trees, as aspens, etc.

63. *Sphyrapicus thyroideus*. BLACK-BREASTED WOODPECKER.—Common as a summer and fall resident.

64. *Melanerpes formisivorus bairdi*. CALIFORNIAN WOODPECKER.—The status of this Woodpecker in the region under consideration is a little difficult to understand. This is probably about its northern limit in the Rocky Mountain region, and it may summer in the lower portions of the mountains. The first individuals were seen August 27, and it soon became rather numerous. Probably in all not less than fifty were seen. It was noticeable that it frequented the locality of certain small oak groves. In fact, it is doubtful if the bird ever occurs, at least in United States, apart from these trees. No indication of its well known habit of storing away acorns in holes was detected.

65. *Colaptes auratus mexicanus*. RED-SHAFTED FLICKER.—A common summer resident.

66. *Ceryle alcyon*. KINGFISHER.—Does not breed in this locality. Several were seen along the stream in the fall, when they secured a good harvest of small trout.

67. *Strix occidentalis*. SPOTTED OWL.—The single individual of this species that was detected was shot August 20. Whether it breeds here or not, or how common it is, are utterly unknown.

68. *Bubo virginianus subarcticus*. WESTERN HORNED OWL.—Numerous, and doubtless a constant resident.

69. *Glaucidium gnoma*. CALIFORNIA PIGMY OWL.—This little Owl was numerous, as it appears to be everywhere throughout the Southern Rocky Mountains. It is known to occur as far north as the neighborhood of Colorado Springs, where it has been taken by Mr. Aiken. Its small size and unobtrusive habits render it peculiarly liable to be overlooked, even where it may be not uncommon. It is very apt to take its station early in the morning on the topmost or outermost branch of an old stub, waiting for the sun that it may enjoy the warmth of its rays.

There is a ready method of detecting the suspected presence of this little Owl, and this is by imitating its notes, which can be done to a nicety. The little fellows are extremely sociable in disposition, as witness the fact that one is rarely found alone. In fall, in fact, they are usually met with in companies.

When awake and on the alert they are prompt to answer the call of a supposed lonely comrade, and I have frequently called them to me when half a mile distant, and this, too, when I took the initiative in calling. When the Owl calls first he can be lured close up enough to be interviewed with almost perfect certainty. Curiously enough, they do not appear to detect the fraud, even though one be standing at the foot of the very tree they may be concealed in. I have stood or walked around a tree for a half hour trying to detect the exact whereabouts of one of these little Owls when he was whistling back at me every moment, and when, of course, I must have been visible most of the time.

They shelter themselves from sun and rain, and from prying eyes, as do larger Owls and Hawks, by standing on a limb close up to the body

of a tree where they can be detected only by the most patient search. In very inclement weather I presume they ensconce themselves snugly in some of the innumerable cavities in old stubs.

70. *Æsalon columbarius*. PIGEON HAWK.—Not uncommon.
71. *Tinnunculus sparverius*. SPARROW HAWK.—Numerous, chiefly in fall.
72. *Pandion haliaëtus carolinensis*. FISH HAWK.—Several seen in fall. Very destructive to trout.
73. *Accipiter cooperi*. COOPER'S HAWK.—Common.
74. *Accipiter fuscus*. SHARP-SHINNED HAWK.—Common.
75. *Astur atricapillus striatulus*. WESTERN GOSHAWK.—Several were seen in fall.
76. *Buteo borealis calurus*. WESTERN RED-TAIL.—The most abundant of all the Hawks. Very numerous and resident.
77. *Aquila chrysaëtus canadensis*. GOLDEN EAGLE.—Rather common as a summer resident.
78. *Cathartes aura*. TURKEY BUZZARD.—Common.
79. *Columba fasciata*. BAND-TAILED PIGEON.—None of these birds nested near our camp, though they probably did not far away. The latter part of August they were found feeding upon the berries of the *Sambucus racemosa*, a small shrubby plant, from two to four feet high. Subsequently, when the acorns began to grow large—long before they began to ripen—they appeared to devote themselves exclusively to them, and between the Pigeons and the squirrels, not an acorn was allowed to ripen. The acorns were of the scrub oak, *Quercus undulata* (two varieties), and are extremely palatable. Pigeons were shot not only with their crops full, but with the gullet crammed up to the very bill.
80. *Meleagris gallopavo*. MEXICAN WILD TURKEY.—Turkeys are found all through the mountains, but they are by no means common. As winter approaches they leave their summer haunts and travel down to the foot-hills and the mesas, where they remain till the snow goes, when, like the deer, they return.
81. *Canace obscura*. DUSKY GROUSE.—Not abundant, though generally distributed through the mountains.
82. *Tringoides macularius*. SPOTTED SANDPIPER.—This ubiquitous little Sandpiper was found along the Pecos at various points, and the fact that it breeds at an altitude of about 8000 feet was attested by the presence of young just out of the shell.
83. *Nettion carolinensis*. GREEN-WINGED TEAL.—This chanced to be the only species of Duck noticed. Ducks drop in here by the merest accident in spring and fall, and doubtless at one time or another most of the migrating species occur along the river.

ON THE BREEDING HABITS OF SOME ARIZONA BIRDS.

BY W. E. D. SCOTT.

FIFTH PAPER.

Aphelocoma sieberii arizonæ.

THE Arizona Jay (*Aphelocoma sieberii arizonæ*) is an abundant species and resident wherever the live-oaks are found on the San Pedro slope of Las Sierras de Santa Catalina, between the altitudes of 3000 and 7000 feet. It is generally seen in parties of from half-a-dozen to twenty, and is an eminently gregarious and sociable bird, even during the season of breeding; and I cannot recall an instance where I have met with a solitary individual. Generally rather wary in its habits, it becomes more familiar in winter, and a bone or piece of meat hung in a tree that shades my house, induced daily visits as long as the severer weather of the past year lasted. It is quite as terrestrial as the common Crow of the East, and in many of its habits remind me of that species. During the season of acorns they form a great element in its diet, and at other times seeds of grasses and some kinds of grubs and beetles are its principal food.

About the last of February, 1885, I noticed the birds mating, and on the 16th of March found a nest, apparently completed, but containing no eggs. There were at least half-a-dozen pairs of the birds in the immediate vicinity, but a close search did not reveal any other nests. The nest was built in an oak sapling about ten feet from the ground, and is composed of dry rootlets laid very loosely in concentric rings, and with little or no attempt at weaving together. There is nothing like a lining, and the walls of the structure have an average thickness of about three-quarters of an inch. The interior diameter is five inches, and the greatest interior depth an inch and three-quarters. The whole fabric recalls to mind a rather deep saucer. The nest was not built in a crotch, but where several small branches and twigs leave the large branch (an inch and a half in diameter) which forms the main support. All the other nests I have seen resemble this one so closely that this description will answer for them.

I did not visit the nest again until the 25th of the month, and was then rather surprised to find another nest, precisely similar to the first, only about a foot away from it on the same branch, further out from the main stem of the tree. The female bird was sitting on the nest first built, and remained there until I was about to put my hand upon her; no eggs had been laid.

About a hundred feet away I discovered on the same day, the 25th, two other nests, also in oak trees, and on one a female was sitting. On disturbing her I found that the nest contained two fresh eggs, so like those of the Robin in color and general appearance as to be almost indistinguishable from them. Believing at the time, as the bird sat so closely, that this might be the full set, I took these eggs, which measured $1.18 \times .88$, and $1.13 \times .86$ inches respectively. On visiting the same locality a few days later I found this nest deserted. The other nest, found the same day, was in another oak, the branches of which touched those of the tree in which the nest containing the two eggs was placed. The two nests were not ten feet apart. There was no bird on the latter nest, nor did it then or afterward contain eggs, though it was without question a new nest, and very recently completed.

On the 1st of April I again visited the two nests first mentioned, and though the old bird was sitting on the nest earliest completed, it still contained no eggs. A visit to the same spot on April 7 was rewarded by finding five fresh eggs in this nest, which are identical in appearance with those above described, and measure, in inches, as follows: $1.25 \times .83$; $1.13 \times .85$; $1.23 \times .83$; $1.14 \times .80$; $1.16 \times .84$. The other nest did not, at this time or afterward, contain eggs; though I visited it for several weeks, at intervals of five or six days.

The striking features developed by these observations are, first, the long period after the nest was built before eggs were laid (the nest being evidently complete on March 16, and having no eggs until later than April 1), though the old birds, one or the other, were sitting on the empty structure; and, second, the building of another nest in every way identical with the first, and very close to it, which was of no obvious use, for I never noticed either of the old birds sitting on it, as was so constantly their habit in the nest close by.

I am entirely at a loss for an explanation of the fact that the nest was prepared so long—nearly three weeks—before it was

used. It will be remembered that similar facts were noted in the breeding of the Gray Vireo (*Vireo vicinior*). As to the circumstance of the birds sitting so constantly before laying, I think it not improbable that it was in order to keep possession of their nest, for as a number of individuals of the species composed the colony a question of ownership might easily arise. The species too, is quite as great a robber of other birds' nests as its cousin of the East, and possibly the habit of sitting so constantly, even before any eggs are laid, is to be accounted for by a strongly inherited tendency to prevent intrusion.

The building of extra nests, as in the two instances cited, I think finds parallel in the case of the Long-billed Marsh Wren, and is possibly to be accounted for by the great nervous activity of the birds; or the extra nests may afford night resting places for the male bird during the breeding season.

Peucæa ruficeps boucardi.

This species, while resident here up to the altitude of 4000 feet in winter, and to nearly 10,000 feet during the warmer months, is much more common from the last of February until the middle of October than at other times of the year. It seems to be less shy than others of the genus that I have met with, save *Peucæa carpalis*, and does not seek cover in the thick grass to the degree or in the manner so characteristic of its congeners. At most times when flushed it will fly to the nearest tree, making little attempt to conceal itself. I often see many feeding where barley or other grain has been thrown to the domestic fowls, and at such times they are quite as familiar as the Sparrow that has caused so much argument and finally been so severely condemned in the Eastern cities. I noted the birds as beginning to sing and mate as early as the middle of March, and at that time of the year they had become a very common and characteristic species of this region.

I have before me two nests. They are so essentially similar that the description of one will answer for both. The first was found on June 5, 1885, well up on a hillside, at an altitude of 4500 feet, on the bare ground, near a tussock of grass, and manifestly no effort had been made to choose a location that would offer any shelter, or serve to conceal the structure. This nest is

very bulky for so small a bird, and is so loosely and carelessly put together that it would appear that little labor had been expended in its building. It is composed of coarse, dried grasses throughout, and there is no attempt at lining with any finer material. The interior diameter is two and three-quarters inches, and the interior depth one inch and a half. The walls are about one inch thick, but in places the grasses are allowed to straggle about in so careless a manner that the walls seem at least two inches in thickness. Contained in this nest were two young just hatched and one egg, apparently fresh, probably infertile. This egg is dead white, without any spots, and is almost as much rounded at one end as at the other. It measures .83 x .62 inches.

The other nest is, as I have said, almost identical in appearance with that just described, save that it is even more bulky and a trifle deeper inside, and was found about July 27, in a similar locality. It contained three partly incubated eggs, which are the same in coloration as the one before described, and which measure respectively .80 x .58, .82 x .60, and .86 x .61 inches.

A third nest is similar, and contained the same number of eggs. It was taken late in July, and the eggs were almost fresh. The species raises three broods at this point, and it will be seen that the breeding season extends over a period of five months.

Lophophanes wolweberi.

Another resident and rather common species in the cañon, of which a description has been given in a former paper of this series, is the Bridled Titmouse (*Lophophanes wolweberi*). It is gregarious, except during the breeding season, going about in small companies. I frequently find it, especially in the fall and winter months, associated with flocks of the Plumbeous Bush-tit (*Psaltriparus plumbeus*), and a pair or more of Strickland's Woodpeckers (*Dryobates stricklandi*) are generally found with the band. I am strongly reminded of the Black-capped Titmouse (*Parus atricapillus*) by this crested cousin of his; for the Bridled Titmouse is quite as unsuspicious and as fond of the society of man.

On the two occasions that I have discovered the species breeding the nests were located in natural cavities in the live-oaks, close

to my house. The first of these was found on May 9, 1884. I took the female as she was leaving the nest, which was in a cavity, formed by decay, in an oak stump. The opening of this hole was about three and a half feet from the ground; its diameter was about three inches inside, and it was some eighteen inches deep. The entrance was a small knot-hole where a branch had been broken off, and was only large enough to admit the parent birds. The hollow was lined with cottonwood down, the fronds of some small rock-ferns, and some bits of cotton-waste. Three eggs had been laid, and by the appearance of the female two more would have completed the set. Unfortunately, in taking the eggs from the nest, two of these were broken, and I am prevented from giving measurements of more than one. All of them were pure white, with a pinkish tinge before being blown, and are unspotted. They are very much pointed at one end, and correspondingly obtuse at the other. The unbroken egg measures .63 x .48 inches.

Just a year later, on May 8, 1885, I again found a pair breeding in an entirely similar location, and also very near the house. I had been aware for some days that the nest was in a certain group of oaks, for the male was constantly singing his very pleasing song, and though I could see as well as hear from the piazza, it was only by most careful watching that I was able to locate the one of the many natural holes in which the pair had made their home. The small entrance was some six feet from the ground, and the cavity was a foot deep, and two and a half inches in diameter. It was lined on the bottom and well up on the sides with a mat composed of cottonwood down, shreds of decayed grasses, some hair from a rabbit, and many fragments of cotton-waste, gathered by the birds from refuse waste that had been used to clean the machinery of a mill hard by. I cannot help calling attention again to the fact of how largely the birds that breed in the immediate vicinity of this mill have acquired the habit of utilizing this material. Four years ago very few settlers had invaded this region, and no machinery had before been brought into the district. Now the influence of man, on such a minor detail as the material used in nest-building, by a great variety of birds just about, is plainly appreciable.

The nest contained, when discovered, four young just born, and two eggs about to be hatched. These are very similar to the

egg already spoken of, being dead white in color, without any spots or markings, and measuring .65 x .51, and .67 x .53 inches.

I think it unlikely that a second or later brood was raised by this species, as by the third week in June I have found several broods of young associated together, escorted each by the parent birds; in this way, forming very large flocks, they roam about through the oak groves.

A LIST OF THE BIRDS OBSERVED IN VENTURA COUNTY, CALIFORNIA.

BY BARTON W. EVERMANN.

THE following paper is based upon observations made during the residence of the writer at Santa Paula, from August, 1879, to July, 1881.

Ventura County lies on the coast between the counties of Santa Barbara and Los Angeles. The general direction of the coast line of this county is northwest and southeast. The Santa Barbara Islands lie to the southwest, Santa Cruza and Ana Capa being in plain view from San Buenaventura, which is the county seat and chief town of the county.

The surface of the county is, chiefly, very mountainous, consisting of many spurs or short ranges of the Coast Mountains. Near San Buenaventura, two small rivers empty into the ocean. These are the San Buenaventura and the Santa Clara. The first comes down from the north through a narrow valley with which the cañon called Canada de Largo is joined five or six miles from the coast. The Santa Clara River comes down from the east through the Santa Clara Valley, which varies from less than a mile to two or three miles in width until within eight miles of the ocean when it suddenly widens into a low, level plain many miles in extent. Near where the valley widens is the little village of Saticoy where Dr. J. G. Cooper, who has done so much to elucidate the natural history of the West, once spent a short time collecting. Eight miles further up the valley, or sixteen miles from the coast, is the village of Santa Paula, in the vicinity of which were made most of the observations recorded in this paper. Along the river are small, isolated groves of cottonwoods and

willows, with here and there an occasional sycamore. Scattered irregularly over the valley in its narrow portion are clumps of live-oaks, which are still more numerous in the cañons and on the adjacent foothills. Further up the sides of the mountains are dense growths of chaparral. At many places in the valley are large patches of prickly pear (*Opuntia tuna*), where the Cactus Wren, Mockingbird, Roadrunner, etc., are most numerous. The cottonwoods and larger willows are the chief nesting places of Crows, Long-eared Owls, and Red-bellied Hawks. The Western Red-tail most usually selects the taller sycamores. The live-oaks are frequented by the Least Tit, Brewer's Blackbird, Lawrence's Goldfinch, and the White-tailed Kite. The California Jay, Brown Towhee, White-rumped Shrike, California Mockingbird, etc., usually nest in the undergrowth of sage and other chaparral which is found covering nearly all uncultivated parts of the valley and cañons. Along the coast, near the mouth of the Santa Clara River, are several small lagoons or ponds where vast numbers of Ducks, Geese, and other water birds winter, and where a few species remain to breed.

I have admitted into the following list 202 species, of which number 201 were identified by me personally. The remaining species (*Empidonax obscurus*) is admitted to a place in the list on account of the finding in the county of what seem to be its eggs. The eggs were brought to me by a boy, and I have no doubt but they are of this species.

By admitting to the list only the results of my own observations, the number of species is not as great as it would otherwise have been. It has been my aim to make a reliable, rather than a long, list. Careful observations, especially among the higher mountains and along the coast, will doubtless add several species to the number now recorded.

The nomenclature and classification adopted in this paper is that of the new American Ornithologists' Union 'Check-List.'*

The species that are known to breed in the county are indicated by a star preceding the name. The number in parenthesis after each name is that of the new A. O. U. Check-List.

1. *Æchmophorus occidentalis*. (1.) WESTERN GREBE.—Seen occasionally in the bay in winter. I have a fine specimen which was caught

* [From advance-sheets of the A. O. U. 'Code and Check List,' by desire of the author.—EDD.]

December 10, 1880, in the Santa Clara River, above Santa Paula, eighteen miles from the coast.

2. **Colymbus nigricollis californicus*. (4.) AMERICAN EARED GREBE.—Rather common in winter; a few breed in the marshes along the coast.

3. **Podilymbus podiceps*. (6.) PIED-BILLED GREBE.—Common resident in the lagoons, where they breed sparingly.

4. *Urinator imber*. (7.) LOON.—The Loon is rather common during winter along the coast and in the bay.

5. *Urinator pacificus*. (10.) PACIFIC LOON.—A rare winter visitant. I have seen it occasionally about Rincon Point, and once in the bay at San Buenaventura.

6. *Cerorhincha monocerata*. (15.) RHINOCEROS AUKLET.—All the evidence I have of the occurrence of this species within our limits is a young bird picked up on the beach near San Buenaventura in January.

7. *Ptychorhamphus aleuticus*. (16.) CASSIN'S AUKLET.—Cassin's Auklet is rather common about the Santa Barbara Islands, where it is said to breed.

8. *Cephus columba*. (29.) PIGEON GUILLEMOT.—Rather common about the Santa Barbara Islands; most numerous on San Nicolas, where it breeds. I was informed that it breeds also upon Anacapa Island.

9. *Uria troile californica*. (30a.) CALIFORNIA GUILLEMOT.—I saw this species once in summer near the wharf at San Buenaventura, and regard it as a rare straggler from the Farallones, where it breeds in great numbers.

10. *Stercorarius parasiticus*. (37.) PARASITIC JAEGER.—I have frequently seen this Jaeger along the coast above San Buenaventura in winter.

11. *Larus glaucescens*. (44.) GLAUCOUS-WINGED GULL.—A winter visitant; not common.

12. *Larus occidentalis*. (49.) WESTERN GULL.—This is doubtless the most abundant Gull to be seen on our coast. It is resident, and breeds in great numbers on most parts of the California Coast.

13. *Larus argentatus smithsonianus*. (51a.) AMERICAN HERRING GULL.—This Gull is a very abundant resident,—in winter perhaps quite equaling *L. occidentalis* in numbers.

14. *Larus cachinnans*. (52.) PALLAS'S GULL.—A winter resident; not common.

15. *Larus californicus*. (53.) CALIFORNIA GULL.—A rather common winter visitant.

16. *Larus delawarensis*. (54.) RING-BILLED GULL.—Winter visitant; not common.

17. *Larus brachyrhynchus*. (55.) SHORT-BILLED GULL.—In December, 1879, I found a dead specimen of this small Gull lying on the beach near San Buenaventura. It was badly decayed and could not be saved.

18. *Larus heermanni*. (57.) HEERMANN'S GULL.—A winter visitant; not very common.

19. *Larus philadelphicus*. (60.) BONAPARTE'S GULL.—Common in the spring and fall, and seen occasionally in winter.
20. *Sterna maxima*. (65.) ROYAL TERN.—This is the only Tern I identified with certainty as found on the coast of Ventura County. It may be seen at almost any season of the year, and I infer that it must breed on the adjacent islands.
21. *Diomedea albatrus*. (82.) SHORT-TAILED ALBATROSS.—Seen frequently along the coast and in the bay in winter.
22. *Phalacrocorax diplophus cincinatus*. (120.) WHITE-CRESTED CORMORANT.—Abundant along the coast in winter. I found them very abundant about Rincon Point. They doubtless breed on the islands.
23. *Phalacrocorax penicillatus*. (122.) BRANDT'S CORMORANT.—This is the most abundant Cormorant of the California coast, where it is resident. They breed in great numbers on the Farallone Islands, and probably breed on Ana Capa.
24. *Pelecanus erythrorhynchus*. (125.) AMERICAN WHITE PELICAN.—Often seen among the lagunas in winter. In July, 1880, I found scores of this Pelican on the plains of the San Joaquin near Modesto.
25. *Merganser serrator*. (130.) RED-BREASTED MERGANSER.—This species is reported as common in most parts of California, but I can regard it as only a very rare winter resident of Ventura County.
26. *Lophodytes cucullatus*. (131.) HOODED MERGANSER.—The Hooded Merganser is a common resident during the rainy season. A few may remain to breed.
27. *Anas boschas*. (132.) MALLARD.—Common during the winter, frequenting fresh water. I am inclined to believe it breeds in the county, but I never found its nest there.
28. *Anas strepera*. (135.) GADWALL.—A common winter resident. More shy and quiet than most other species, feeding most usually after twilight.
29. *Dafila acuta*. (143.) PINTAIL.—A winter resident; not common.
30. *Anas americana*. (137.) BALDPATE.—The Baldpate, or Widgeon, is one of the most abundant of our winter Ducks. Few, if any, remain to breed.
31. **Anas carolinensis*. (139.) GREEN-WINGED TEAL.—This is one of the most abundant and generally diffused of our Ducks, it being found during the wet season in almost every little stream or pool. A few breed in the county.
32. **Anas cyanoptera*. (141.) CINNAMON TEAL.—The Cinnamon Teal is resident in the county, but is most common during the summer.
33. *Spatula clypeata*. (142.) SHOVELLER.—This Duck is a common winter resident.
34. **Aix sponsa*. (144.) WOOD DUCK.—This handsome Duck is found throughout the year in greater or less abundance.
35. **Aythya americana*. (146.) REDHEAD.—This seems to be a common resident of the county. I obtained what I take to be its eggs in May.

36. *Aythya vallisneria*. (147.) CANVAS-BACK.—The Canvas-back is a common winter resident.

37. *Aythya marila nearctica*. (148.) SCAUP DUCK.—A common resident along the coast from October to April.

38. *Aythya affinis*. (149.) LESSER SCAUP DUCK.—A winter resident; not so common as the preceding.

39. *Glaucionetta clangula americana*. (151.) AMERICAN GOLDEN-EYE.—Winter resident, not common.

40. *Charitonetta albeola*. (153.) BUFFLE-HEAD.—This little Duck is a common winter resident.

41. *Oidemia deglandi*. (165.) WHITE-WINGED SCOTER.—This species I have seen occasionally in winter in the surf along the Ventura Beach.

42. *Erismatura rubida*. (167.) RUDDY DUCK.—A common winter resident.

43. *Chen hyperborea*. (169.) LESSER SNOW GOOSE.—On November 20, 1880, I secured the only individual of this variety I ever saw in the county. In company with my friend, Mr. J. B. Alvord, I was spending a day gunning among the lagunas near the mouth of the Santa Clara River. We had stationed ourselves on dry ground between two lagoons, and were having excellent success in bringing down various species of Ducks as they, encouraged by the early morning winds, were flying from one body of water to the other. The Ducks flew usually low and were easily gotten. Thousands of Geese (*C. hyperboreus nivalis*, *C. rossii*, and *Anser albifrons gambeli*) flew overhead, but all too high for us. Finally, however, I saw a single one coming directly towards me with a number of Ducks, all flying low. Of course I brought it down, and was much pleased, on picking it up, to find I had secured a good-plumaged female of this rather rare species.

Mr. L. Belding of Stockton, Cal., regards this as a very rare species in that State. He secured one at Marysville in the winter of 1874, and another at Stockton, October 18, 1878,—these being the only ones seen by him. Each one when shot was either alone or with a small flock of Ducks. He left the wings of the first specimen with a hunting club, which was not able to duplicate them. (See Proc. U. S. Nat. Mus. 1878, 444.)

43a. *Chen hyperborea nivalis* (169 a.) SNOW GOOSE.—An abundant winter resident.

44. *Chen rossii*. (170.) ROSS'S SNOW GOOSE.—Frequent in winter associated with *C. hyperboreus nivalis*, from which it can be distinguished by its cry, which greatly resembles that of the small Cackling Goose (*Branta canadensis minima*).

45. *Anser albifrons gambeli*. (171 a.) AMERICAN WHITE-FRONTED GOOSE.—This is, perhaps, the most abundant of all the Geese that visit California during the winter, and is usually the first to arrive. So abundant is it in the Sacramento and San Joaquin Valleys, and so destructive are its ravages upon the growing wheat crop, that farmers often find it necessary to employ men by the month to hunt and drive them from their fields.

46. *Branta canadensis*. (172.) CANADA GOOSE.—A winter resident, but not so common as the preceding.

47. *Branta canadensis minima*. (172 c.) CACKLING GOOSE.—This is a common winter resident, arriving as early as October, and frequents not only the salt-marshes along the coast but also the interior valleys. It is said to be more abundant in the northern part of the State, where, with *A. gambeli*, it does great damage to the young wheat.

48. *Olor columbianus*. (180.) WHISTLING SWAN.—A frequent winter visitant to the laguñas along the coast.

49. *Olor buccinator*. (181.) TRUMPETER SWAN.—Winter visitant with the preceding species, but more common.

50. *Plegadis guarauna*. (187.) WHITE-FACED GLOSSY IBIS.—One specimen gotten near Santa Paula, May 14. This is the only specimen I ever saw in Ventura County, but on the San Joaquin Plains I found them common in July.

51. **Botaurus lentiginosus*. (190.) AMERICAN BITTERN.—Resident; not common.

52. **Ardea herodias*. (194.) GREAT BLUE HERON.—A common resident. Several pairs nested in the cottonwoods near the mouth of the Santa Clara River.

53. **Ardea egretta*. (196.) AMERICAN EGRET.—Common resident among the marshes near the coast.

54. **Ardea candidissima*. (197.) SNOWY HERON.—Resident; most frequent near the mouth of the Santa Clara River.

55. **Ardea virescens* (201.) GREEN HERON.—Summer resident; not common. A few probably winter in the county, but most all go further south.

56. *Nycticorax nycticorax nævius* (202.) BLACK-CROWNED NIGHT HERON.—Probably resident, but not common.

57. *Grus mexicana*. (206.) SANDHILL CRANE.—Occasionally seen during the migrations.

58. **Fulica americana*. (221.) AMERICAN COOT.—An abundant winter resident, both on the shore and in the streams and marshes. A few breed in the laguñas.

59. *Recurvirostra americana*. (225.) AMERICAN AVOCET.—I have a single specimen of this species taken on the coast near San Buenaventura, April 28, 1881. This is the only record I have of its occurrence in the county.

60. *Gallinago delicata*. (230.) WILSON'S SNIPE.—A rare winter resident, but a common spring migrant.

61. *Tringa minutilla*. (242.) LEAST SANDPIPER.—An abundant winter resident along the shore.

62. **Ereunetes occidentalis*. (247.) WESTERN SANDPIPER.—Rather common resident.

63. *Calidris arenaria*. (248.) SANDERLING.—Abundant during the winter along the seashore.

64. *Limosa fedoa*. (249.) MARBLED GODWIT.—Probably resident along the coast. I obtained specimens near San Buenaventura, April 28.

65. *Totanus melanoleucus*. (254.) GREATER YELLOW-LEGS.—Seen frequently along the Santa Clara River. Probably resident.

66. *Numenius longirostris*. (264.) LONG-BILLED CURLEW.—Frequent along the coast except in summer prior to July, when young birds appear.

67. *Numenius hudsonicus*. (265.) HUDSONIAN CURLEW.—A winter visitant; not common.

68. **Hæmatopus palliatus*. (286.) AMERICAN OYSTER-CATCHER.—Seen occasionally along the sea coast in summer.

69. **Hæmatopus bachmani*. (287.) BLACK OYSTER-CATCHER.—More common as a summer resident than the former. Breeds sparingly.

70. *Charadrius squatarola*. (270.) BLACK-BELLIED PLOVER.—Rather common along the coast in winter.

71. **Ægialitis vocifera*. (273.) KILLDEER.—Rather abundant resident.

72. **Ægialitis nivosa*. (278.) SNOWY PLOVER.—Resident along the coast and rather abundant.

73. **Oreortyx pictus*. (292.) MOUNTAIN PARTRIDGE.—Resident in the mountains; not common. I knew of but two or three small flocks in the county.

74. **Callipepla californica*. (294.) CALIFORNIA PARTRIDGE.—Very abundant resident. Nests in March and April. Albinism is not infrequent; I have three beautiful cream-colored specimens secured near Santa Paula.

75. *Columba fasciata*. (312.) BAND-TAILED PIGEON.—The only specimen of this bird I ever saw in the county I got February 28, 1880, near the mouth of Santa Paula Cañon. It was a female, and was feeding upon the young balls of the sycamore, no less than thirty-five of which I took from its crop. Residents of Santa Paula inform me that it was common only a few years ago.

76. **Zenaidura macroura*. (316.) MOURNING DOVE.—An abundant resident. Nests early in April.

77. **Pseudogryphus californianus*. (324.) CALIFORNIA VULTURE.—Resident among the higher mountains, descending only to the valleys and cañons to feed upon carrion.

78. **Cathartes aura*. (325.) TURKEY VULTURE.—An abundant resident. During the winter more than a hundred roosted in a grove of eucalyptus trees near Santa Paula.

79. **Elanus leucurus*. (328.) WHITE-TAILED KITE.—A rare resident. I knew of only four or five pairs in the Santa Clara Valley from the coast to the Sespe,—about twenty miles. I obtained full sets of eggs April 12.

80. **Circus hudsonius*. (331.) MARSH HARRIER.—Resident; rather common. Nests on the ground early in April.

81. *Accipiter velox*. (332.) SHARP-SHINNED HAWK.—Seen occasionally during the winter. Probably breeds sparingly in the county.

82. **Accipiter cooperi*. (333.) COOPER'S HAWK.—Resident, but not common.

83. **Buteo borealis calurus*. (337b.) WESTERN RED-TAIL.—An abundant resident. Nests early in March,—sometimes even in February.

84. **Buteo lineatus elegans*. (339b.) RED-BELLIED HAWK.—A common resident. Nests not quite as early as *calurus*.

85. **Archibuteo lagopus sancti-johannis*. (347a.) AMERICAN COUGH-LEGGED HAWK.—A rare resident; most numerous in winter.

86. **Haliaeetus leucocephalus*. (352.) BALD EAGLE.—Resident; frequent along the coast. I was always sure to see a pair or more whenever I visited Rincon Point,—up the coast from San Buenaventura.

87. **Tinnunculus sparverius*. (360.) SPARROW HAWK.—A common resident. I have found it nesting in the deserted nests of the Magpie.

88. **Strix flammeus americanus*. (365.) AMERICAN BARN OWL.—An abundant resident in suitable places. It most frequents the deeper barancas, steep cliffs, and the dense foliage of live-oaks. In winter this Owl seems somewhat gregarious, as I have seen a drove of more than fifty among the oaks in Canada de Largo, six or seven miles from San Buenaventura.

Breeds in February and March, in holes in the steep banks of barancas, in cliffs, in old buildings, or in hollow trees.

On March 5, 1881, my friend, Fred Cary, and I secured over 45 eggs from Ricker's Baranca, which is just east of Santa Paula. We found the Owls occupying holes in the sides of the baranca. By means of a rope we were able to get down to the nests, into eleven of which we dug. One of these contained nothing. From six others we took 44 eggs, the sets ranging from six to ten eggs each. Of the remaining nests, one contained 5 eggs, another 6 eggs and 1 young bird, another 4 eggs and 5 young birds, varying in size from one just from the shell to one a week or more old.

89. **Asio wilsonianus*. (366.) AMERICAN LONG-EARED OWL.—An abundant resident; found dozing during the day among the live-oaks or the groves of willows along the streams. The old nests of Crows are generally appropriated by it in which to lay its eggs. I have found eggs of this Owl as early as February 13.

90. **Megascops asio*. (373.) SCREECH OWL.—Common resident. I am not able to refer any specimens I have seen to any other variety.

91. **Bubo virginianus subarcticus*. (375a.) WESTERN HORNED OWL.—Resident, common; nests early in February *

92. **Speotyto cunicularia hypogaea*. (378.) BURROWING OWL.—Resident; common and generally distributed. Nests early in April, laying from 5 to 11 eggs.

93. **Geococcyx californianus*. (385.) ROAD-RUNNER.—A rather common resident; most frequent among the cactus patches. Nests early in March and April.

94. **Ceryle alcyon*. (390.) BELTED KINGFISHER.—Resident, but does not seem to be common in any part of the county.

95. **Dryobates villosus harrisi*. (393c.) HARRIS'S WOODPECKER.—Resident throughout the year; common. Nests early in March. I have

frequently observed a tendency toward albinism among individuals of this species.

96. **Dryobates pubescens gairdneri*. (394a.) GAIRDNER'S WOOD-PECKER.—A common resident and generally distributed.

97. **Dryobates nuttalli*. (397.) NUTTALL'S WOODPECKER.—Resident, but not so common as the preceding.

98. **Melanerpes formicivorus bairdi*. (407.) CALIFORNIA WOOD-PECKER.—Resident and locally abundant. About ten miles from Santa Paula is the Ojai Valley which, shut off from the coast winds by a spur of the Coast Range, is thickly set with live- and white-oaks. Among these this Woodpecker is very common, and is by far the most conspicuous bird of the valley. Almost all the available space on the dead limbs seems to have been used by these industrious birds, which drill these limbs full of holes, and into these they drive great quantities of acorns.

99. *Melanerpes torquatus*. (408.) LEWIS'S WOODPECKER.—I have taken this handsome Woodpecker at Newhall (40 miles up the Valley from Santa Paula) and at Pacheco Pass, but never saw it but once (November 2, 1880) in Ventura County. I think it only a winter visitant here.

100. **Colaptes cafer*. (413.) RED-SHAFTED FLICKER.—An abundant resident. Individuals are occasionally seen grading into *hybridus*. On January 12, 1881, I took a most beautiful albino of this species.

(To be concluded.)

AN ORNITHOLOGICAL RECONNAISSANCE IN WESTERN NORTH CAROLINA.

BY WILLIAM BREWSTER.

QUITE unaccountably the mountain region of Western North Carolina, Northwestern South Carolina, and Northern Georgia has remained, up to the present time, a *terra incognita* to ornithologists. Speculations as to its bird-fauna have been more or less freely indulged in, and a general impression has prevailed that many of our so-called northern birds regularly summer and breed there; while daring prophets have even hinted that it would prove the home of certain 'lost' or imperfectly known species, such as Cuvier's Kinglet, the Carbonated Warbler, Bachman's Warbler, etc. But despite these interesting probabilities and possibilities, the march of actual investigation has been directed into other channels, leaving the 'Land of the Sky' but little better known than in the days of Wilson and Audubon.

During the past season (1885), I was able to spend a short time in this attractive field. Reaching Asheville May 23, and making that town my base of operations, I first explored the neighboring country, and then visited, in succession, Smather's, a station on Hominy Creek in Buncombe County, Waynesville in Haywood County, Webster in Jackson County, and Franklin and Highlands in Macon County, returning by way of Hamburg, East La Porte, and Sylva in Jackson County.

This journey took a week, and covered a distance of about one hundred and fifty miles. At all the points just named more or less time was spent collecting specimens and notes. But, excepting at Highlands, by far the most productive and satisfactory work was done *en route*. Traveling in a light open wagon, with a driver to look after the horses, I was perfectly independent and free at any time to jump out to pursue a bird or explore a tempting bit of cover. Naturally the delays were numerous—so numerous in fact that the entire day was often spent in making a distance of twenty or thirty miles. Thus I had abundant opportunities for field work at places not to be found on the map, while the best hours for collecting were seldom wasted. In this way, as I learned years ago, an extensive region may be explored rapidly and perhaps, considering everything, to the very best advantage.

Returning to Asheville May 30, I spent another day there, and early on the morning of June 1 started for the Black Mountain Range, getting a long afternoon for the ascent, camping that night near the summit of the main ridge, and devoting most of the following day to exploring the spruce and fir forests above 5000 feet altitude. This expedition—a most interesting and fruitful one—was the last that I was able to make, for on the night of June 3 I set out for the North. Thus my entire stay extended over a period of only twelve days, and therefore was too short to allow anything like a thorough investigation, or the collecting of many specimens. But covering, as it did, the flood tide of the breeding season, when the birds were settled for the summer and in fullest song and plumage, it was worth thrice the time at any other period of the year. Moreover, while my explorations were necessarily hurried and superficial, they extended over a large area and included every variety of ground. Thus it is probable that they furnished me with a fair knowledge of the

general characteristics of the region, and something more than a glimpse at its bird life. At all events, the material results seem worth considering at some length.

By turning to a topographical map of the region it will be seen that Western North Carolina is crossed by two mountain ranges, the Blue Ridge and the Great Smoky Mountains. These ranges extend in a northeasterly and southwesterly direction, and are generally parallel, but diverge slightly towards the south, converging again and more or less completely uniting just north of the Georgia line. The country between them forms an extensive plateau from thirty to fifty miles in width and having a length within the State of about one hundred and fifty miles. This plateau varies in elevation from 2000* to 4000 feet. Its surface is exceedingly irregular, being broken everywhere by long, narrow ridges, rounded hills, and low mountains, separated by valleys of every conceivable shape, and varying depth and extent. It is also bisected at right angles by such ranges as the Nantahaleh, Cowee, Balsam, and Newfound Mountains, short but usually continuous chains of considerable elevation, which form imposing barriers, and subdivide the great central valley into several separate basins.

The plateau, as a rule, is heavily timbered and exceptionally well-watered. Every valley, however small, has its stream, usually a shallow brook of clear, cold water, flowing between banks fringed with alders or rhododendrons. There are two rivers of considerable size, the Tennessee and French Broad, which, after receiving the waters of numerous tributaries, cut their way through the Great Smoky Mountains and empty into the Ohio. Rather curiously, the entire plateau is drained in this direction, all the rivers which discharge into the Atlantic rising on the eastern slope of the Blue Ridge, and those which flow into the Gulf of Mexico on the southern slope of the combined ranges.

The principal mountain chains above mentioned include many summits which rise above 6000 feet and, it is said, upwards of twenty higher than Mt. Washington in New Hampshire. They are invariably wooded nearly or quite to their tops with various deciduous trees, chiefly oaks, maples, chestnuts, and walnuts. These at the lower and mid elevations grow to an unusual size,

* Portions of Madison County, which I did not visit, are said to be as low as 1325 feet.

but above 4500 feet are often somewhat dwarfed and stunted. In places, generally at between 3000 and 5000 feet, one finds scattered white pines or hemlocks, but rarely in sufficient numbers to form noticeable breaks in the sea of tender green foliage spread out on every side; in lake-like expanses in the valleys, rippling gently on the lower ridges, and rolling in great billows over the larger hills and mountains.

The summits and upper sides of a few of the higher mountains are covered with what is locally and very appropriately termed 'black growth.' At a distance this presents the appearance of a perfectly uniform tract or belt of a dark, sombre olive-green. It is often confined to the northern slopes, and always extends further down on northern than on southern exposures. Its lower edge is usually sharply and abruptly defined at an elevation of somewhere between 5000 and 6000 feet. This black growth is made up chiefly of spruces (*Abies nigra*) and firs (*A. fraseri*), which, on the Black Mountains at least, are in the numerical proportion of about one fir to five or six spruces.* Intermixed rather plentifully with these evergreens are birches (*Betula lutea*) and mountain ashes (*Pyrus americana*), the former of fair size, the latter stunted. I noticed no other trees and few shrubs except occasional rhododendrons.

Much of the low country, especially those portions bordering or near the larger streams, is under cultivation, tobacco being the favorite and most profitable crop. Extensive areas, however, are everywhere still clothed in forest, either of vigorous second-growth or fine old timber. It is impossible, within the limits of this article, to give anything like a definite idea of these woods, for they vary greatly at different localities and elevations, and include an endless variety of trees and shrubs. In a general way, however, it may be enough to say that the growth along the streams is chiefly red birches (*Betula nigra*), sycamores (*Platanus occidentalis*), red maples (*Acer rubrum*), water oaks (*Quercus aquatica*), and sweet gums (*Liquidambar styraciflua*); that of the lower and sandier hills, scrubby oaks and pines (principally *Pinus inops* and *P. rigida*); and of the lower mountain sides and 'coves' (as the wide, fertile valleys that extend in be-

* The mountaineers confound these very distinct trees under the general term 'balsams,' by which they are known throughout the region.

tween outlying spurs of the mountains are called) black walnuts (*Juglans nigra*), tulip trees (*Liriodendron tulipifera*), bass-woods (*Tilia*), and oaks of many different species.

A conspicuous feature of the plateau region at large is its extensive tracts of rhododendrons or 'laurels.' These form the principal undergrowth along streams, over damp hillsides, and throughout swampy or springy land, and, in many places, they grow in such tangled thickets that it is impossible for a man to penetrate them without the aid of an axe. On drier ground, however, the old growth is entirely devoid of underbrush. Its surface is so smooth and free from rocks or holes that one may often leave the road and drive for miles between the trees without meeting any more serious obstruction than an occasional crumbling log or fallen top. In many places, especially on the higher plateaus where the growth is largely of white oaks, the trees are scattered about in groups or singly at intervals of one or more hundred feet, with grassy openings between, giving the country a park-like appearance. Generally, in fact almost universally, the old timber is of the finest quality, many of the trees rising fifty or more feet to the first limb, and at the base measuring fifteen to twenty in circumference. But that deadly enemy of all forests, the lumberman, has already begun his inroads, and the grand old oaks, tulip trees, and black walnuts that have resisted the storms of centuries must soon fall before his merciless axe.

The region thus roughly outlined and described has been long known to tourists and sportsmen, and for many years has formed an attractive and popular summer resort. Various writers have praised its picturesque scenery and delightful climate. The botanists have been active there, and, thanks to the labors of Gray, Chickering, Vasey, and others, its flora is comparatively well known. But its ornithology has been so nearly neglected that I know of only one contribution based on actual field work, a paper by Professor Cope in an old number of the *American Naturalist*.* In this paper the writer mentions finding "in the high valley of Henderson County, and on the Black, Rich, and other mountains in southern North Carolina," such northern birds and mammals as *Junco hyemalis*, *Vireo solitarius*, *Dendroica coronata*, *D. maculosa*, *D. virens*, *D. blackburniae*, *D. cærules*.

* Vol. IV, No. 7, Sept. 1870, pp. 392-402.

cens, *Lynx canadensis*, and *Sciurus hudsonius*. He infers "that the region, including the crest of the Alleghany Mountains to their southern extremity in Georgia, possesses a fauna in many respects entirely different from that of the southern two-thirds of the Alleghanian fauna as defined by Verrill, and in some respects as similar to the Canadian."

His bird-collecting was done in *September*, a season when almost any suitable locality in the South is well supplied with such migratory northern birds as those just named. On this account their presence at the times and places mentioned possessed no special significance. Had Professor Cope recognized this fact, and in addition considered carefully the very different respective *elevations* at which he found his northern mammals and southern reptiles, he might have escaped conclusions which, as far as they are formulated, are unwarrantable, and which do little credit to so distinguished a naturalist, especially when it is considered that he spent upwards of two months collecting at various localities and altitudes.

From an ornithologist's standpoint the region under discussion may be easily and naturally treated as embracing three distinct faunæ, which, in all essential respects, conform closely with the Canadian, Alleghanian, and Carolinian Faunæ of Eastern North America at large. The boundaries of these divisions are determined chiefly by elevation, the Canadian occupying the tops and upper slopes of the higher mountains down to about 4500 feet, the Alleghanian the mountain sides, higher valleys, and plateaus between 4500 and 2500 feet, and the Carolinian everything below the altitude last named.

Owing to the irregular surface of the country, no one of these faunæ is continuous over a large area, for the birds, as well as the trees and shrubs, are continually changing with the elevation. I have left a valley where Mockingbirds, Bewick's Wrens, and Cardinals were singing in water oaks, sweet gums, and magnolias, climbed a mountain side covered with oaks and hickories, and inhabited by Wilson's Thrushes, Yellow-throated Vireos, and Rose-breasted Grosbeaks, and within an hour or two from the time of starting found myself in a dense spruce forest where Winter Wrens, Golden-crested Kinglets and Red-bellied Nuthatches were the most abundant and characteristic birds. Indeed, were it possible in the present state of our knowledge to indicate

accurately on the map the relative extent and position of the three faunæ by using a different color for each, as, for instance, green for the Canadian, red for the Alleghanian, and white for the Carolinian, the work when completed would certainly present a strangely patched appearance. Probably the white would predominate in extent, with red next, and green last.

The boundaries between the different faunal areas are sharply marked in places, in others only faintly so, one set of birds often overlapping and mingling with another throughout a belt of neutral ground. The line of separation between the Canadian and Alleghanian divisions, so far as I observed, is better defined than that between the Alleghanian and Carolinian. The Canadian Fauna is also purer than either of the other two. Thus on Black Mountain, at about 5000 feet, I found only three species (*Parus carolinensis*, *Cathartes aura*, and *Colinus virginianus*) which are not common and more or less characteristic forms of the Canadian Fauna of New England; whereas double this number of Carolinian forms extended upward into Alleghanian areas, and as many more Alleghanian birds downward over Carolinian territory. The lowest valleys of all possess a few Louisianian species, such as *Dendroica dominica* and *Peucaea bachmani*; but this infusion is too inconsiderable to be of much practical importance.

An interesting feature, more or less noticeable in each of the three faunal divisions just mentioned, is the unusual restriction of certain species and the general distribution of others. Thus *Dendroica blackburniæ* and *D. cærulescens*, elsewhere mainly confined to the Canadian Fauna, were here found in equal or even greater abundance over most of the Alleghanian, *Parus carolinensis*, *Lophophanes bicolor*, and *Seiurus motacilla* ranged from the lowest valleys nearly to, and in some cases actually above, 4500 feet; while *Dendroica virens*, in the North common alike to the Canadian and Alleghanian Faunæ, was met with only in the 'balsams' at high elevations on the Black Mountains.

With these and a few similar cases it is evident that altitude plays only a secondary part, various local conditions—such as the presence or absence of certain trees or shrubs—having clearly more influence. *Dendroica virens*, for example, was seen only where spruces and balsams predominated over other trees, and

D. cærulescens invariably in or near extensive tracts of rhododendrons. For the rest it will not do to draw the lines too closely in a region where a bird can easily fly, in a few minutes, from a valley filled with southern trees and shrubs to a mountain summit clothed with northern Coniferæ. Indeed, it is chiefly surprising that faunal lines can be drawn at all under such conditions.

Another curious fact is the apparent absence in the breeding season of many northern birds which might be reasonably expected to occur. That such non-migratory species as *Perisoreus canadensis*, *Picoides arcticus* et *americanus*, and *Dendragapus canadensis* have never discovered these isolated spruce forests is not perhaps strange; but why should not the migratory *Turdus swainsoni* et *pallasi*, *Dendroica coronata* et *maculosa*, and *Zonotrichia albicollis* here find, on the higher mountains, as congenial a summer home as have *Turdus fuscescens*, *Dendroica blackburniae* et *cærulescens*, and *Junco hyemalis*? Scarcely less remarkable is the absence, at mid-altitudes, of *Helminthophila ruficapilla*, *Poæcetes gramineus*, and *Melospiza fasciata*.

Owing to the briefness of my stay and the rapidity of my movements it was impossible to collect many specimens. In most cases my material barely serves to authenticate my notes; in very few will it warrant generalizing. But as far as it goes it indicates that at least some of the northern birds inhabiting this elevated southern region have been more or less modified by the peculiar conditions of their environment. The Solitary Vireos and Juncos are decidedly larger than their northern representatives; the Robins and Black-capped Chickadees (*atricapillus*) are apparently smaller. Others again, as the Brown Creeper, Golden-crested Kinglet, and Red-bellied Nuthatch, do not differ appreciably.

The following list contains all the species that I personally and positively identified, and no others, except a few well-known and unmistakable game birds, included on the authority of local sportsmen. For obvious reasons I have restricted it to the resident and summer birds, the few migratory species, of whose occurrence during autumn or winter I have satisfactory proofs, being given in a separate category. As a catalogue of even the summer birds it must be necessarily far from complete; but it should at least serve as a starting point for future investigators.

During my stay in the mountains I was everywhere treated with such kindness and hospitality that a list of those to whom I am indebted would be too long for mention here. But as essential to the connection I must acknowledge my obligations to Mr. E. L. Boynton, of Highlands, for specimens and notes which have proved of much importance by establishing the breeding of certain birds observed during my visit to Highlands in the latter part of May. Without this confirmatory evidence I might have hesitated, at least in some cases, before assuming that the species in question were really settled for the summer, and not belated migrants on their way to higher or more northern regions.

1. **Aix sponsa*. WOOD DUCK.—A common summer resident, breeding numerously along all the larger streams.

2. *Gallinula galeata*. FLORIDA GALLINULE.—A barber in Asheville had a live specimen displayed conspicuously in a cage on the sidewalk in front of his shop. It had been taken about May 15 in a meadow some ten miles from town, and was an object of wonder and admiration to all who passed. Seemingly contented with captivity, it was singularly tame and gentle, allowing itself to be handled without trying either to resist or escape.

3. *Actitis macularia*. SPOTTED SANDPIPER.—Found along most of the streams, but nowhere at all numerously. I saw less than a dozen in all.

4. *Philohela minor*. WOODCOCK.—Well known to the Asheville sportsmen, who assured me that one or two pairs breed regularly in an extensive swamp near that town. The species occurs most numerously in autumn.

5. *Ardea virescens*. GREEN HERON.—Several seen along the rivers in the lower valleys.

6. *Bonasa umbellus*. RUFFED GROUSE.—I did not find the 'Pheasant' (as the bird is universally called in this region) anywhere below 4000 feet, but above that altitude it was seen daily. During my visit to the Black Mountain range (June 1, 2) the males were drumming incessantly, especially at, and for a brief time after, sunset; but they were so shy that I failed to secure a specimen. At Highlands I examined several skins taken in the immediate vicinity and found them essentially similar to the bright reddish bird of Eastern Virginia. The mountain people of Western North Carolina say that the Pheasant is quite as numerous in the valleys as at high elevations. This may be true of autumn and winter, but I doubt if it is of the breeding season also. The species occurs as far east as Old Fort, where it is well known to the hunters, one of whom showed me the tail of a specimen that he had killed. At Salisbury, among the foot-hills one hundred miles or more further eastward, I was told that it is never seen.

* The arrangement and nomenclature are in accordance with the new A. O. U. Check-List.

7. *Colinus virginianus*. BOB-WHITE.—Abundant everywhere, in grain fields in the valleys, oak woodland over the mountain sides, and throughout the balsam forests that cover the higher peaks and ridges. On the Black Mountains I killed three (at 5000 feet altitude) in dense spruces where Winter Wrens, Golden-crested Kinglets, and other 'Canadian' species were among the most numerous birds. Others were heard calling still higher up, and my guide assured me that he had often seen them on the very summit of Mitchell's High Peak (6688 feet). The specimens just mentioned are large, light colored birds, in no appreciable way different from Massachusetts examples.

8. *Meleagris gallopavo*. WILD TURKEY.—Abundant everywhere, ranging, according to the hunters, over the highest mountains, and breeding quite as numerously throughout the black growth above 5000 feet as in the hardwood forests below.

9. *Zenaidura macroura*. CAROLINA DOVE.—The Turtle Dove was occasionally seen near Asheville, and also at Franklin, but not elsewhere. The Wild Pigeon (*Ectopistes migratorius*) is said to occur in autumn in large numbers, especially when beech mast is abundant.

10. *Cathartes aura*. TURKEY BUZZARD.—Although less numerous than in the coast districts of the South, the Buzzard is common and universally distributed throughout these mountains, where it is quite indifferent to elevation. It is said to breed in crevices in the higher, more inaccessible cliffs.

11. *Falco peregrinus anatum*. DUCK HAWK.—Nearly every suitable cliff on the higher mountains was occupied by a pair of these noisy Falcons. The mountaineers say that the same birds breed in the same places many years in succession. They also believe that these unfortunate Hawks regularly 'go blind' in August, and as a natural consequence become very thin and even die of starvation.

12. *Buteo pennsylvanicus*. BROAD-WINGED HAWK.—Three specimens noted, a pair near Webster, and a single bird at about 6000 feet on the Black Mountains.

(NOTE.—The general scarcity—one may almost say absence—of Hawks in this region during the breeding season is simply unaccountable. Small birds and mammals, lizards, snakes, and other animals upon which the various species subsist are everywhere numerous, the country is wild and heavily-forested and, in short, all the necessary conditions of environment seem to be fulfilled.)

13. *Aquila chrysaëtos*. GOLDEN EAGLE.—These fine Eagles were frequently seen, usually in pairs, circling thousands of feet above the earth. They are said to breed on inaccessible cliffs and ledges of the higher mountains, whence they often descend into the valleys to prey on young lambs, geese, etc. The Bald Eagle is reported to occur in winter.

14. *Syrnium nebulosum*. BARRED OWL.—On the Black Mountains, at an elevation of about 5000 feet, I picked up a feather which unquestionably came from a Barred Owl, but whether its original owner belonged to the *allenii* stripe or to typical *nebulosum* I am of course unable to decide on such fragmentary evidence.

(NOTE.—Although I passed several nights in or near extensive forests I did not hear a single Owl of any species. The mountain people say that they are silent at this season, but very noisy during late summer and early autumn. They described several kinds well known to them, among which *Megascops asio*, *Bubo virginianus*, and *Syrnium nebulosum* were easily recognisable.)

15. *Ceryle alcyon*. BELTED KINGFISHERS.—But a single one met with—near the headwaters of the Cullasaja River in Macon County.

16. *Coccyzus americanus*. YELLOW-BILLED CUCKOO.—One at Franklin, in the heart of the village. This was the only Cuckoo of any species seen in the mountains.

17. *Dryobates villosus*. HAIRY WOODPECKER.—A male shot among the 'balsams' of the Black Mountains, at an elevation of 5700 feet, is essentially identical with our New England form,* and at once distinguishable from the birds seen at lower elevations, all of which I refer without hesitation to the following subspecies.

18. *Dryobates villosus auduboni*. SOUTHERN HAIRY WOODPECKER.—Seen occasionally at wide intervals, from the lowlands (Franklin) to an elevation of about 4000 feet (Highlands). The single example taken is precisely like specimens from Florida and Charleston, South Carolina, and very much smaller and darker than the bird above referred to true *villosus*.

19. *Dryobates pubescens*. DOWNY WOODPECKER.—Apparently rare; only two or three seen, all at about 4000 feet.

20. *Sphyrapicus varius*. YELLOW-BELLIED WOODPECKER.—The distribution of this Woodpecker in the region explored apparently corresponds exactly with that of *Contopus borealis*; thus it was found generally, but rather sparingly, over the plateau country in the southeastern corner of Macon County, and nowhere else. I shot two specimens, a male and female, both incubating. The male is a remarkable looking bird, having the lighter portions of its entire plumage deep orange or chocolate brown, instead of white or pale yellow. That this unusual color is due to a stain—perhaps derived from contact with the walls of the nesting cavity—is nearly certain, for the female—which, however, was not the mate of the male just mentioned—is of the usual color and markings. Both specimens are slightly smaller than New England ones.

21. *Ceophleus pileatus*. PILEATED WOODPECKER.—Common and generally distributed, at least below about 4500 feet.

22. *Melanerpes erythrocephalus*. RED-HEADED WOODPECKER.—Only one specimen seen,—in a grove of girdled trees near Highlands.

23. *Colaptes auratus*. FLICKER.—Common over the mountain sides and plateaus between 3000 and 4000 feet, but not seen either above or below these limits. They were invariably very shy, and I failed to secure any, a fact to be regretted, for all looked unusually small and dark.

24. *Antrostomus vociferus*. WHIP-POOR-WILL.—Perhaps no other

* This form has been referred by some ornithologists to *leucomelas*, but with this ruling I cannot concur.

single fact shows more clearly the general absence of a true Louisianian Fauna in this region than the substitution, over even its lowest portions, of the Whip-poor-will for the Chuck-wills-widow. At just what particular point outside the encompassing mountain ranges this interchange is effected I cannot say, but certain it is that the larger bird is unknown over the length and breadth of the great central plateau, whereas the Whip-poor-will is common everywhere to at least 3500 feet. Above this elevation it does not appear to range, although from the extremity of the plateau at Highlands (4000 feet) it may be heard nightly in the valleys a few hundred feet below.

25. *Chordeiles virginianus*. **NIGHTHAWK**.—Common about Asheville, but not seen elsewhere. It is said to occur over the entire region, where it is universally called 'Bull-bat.'

26. *Chætura pelasgica*. **CHIMNEY SWIFT**.—This ubiquitous species which, in Eastern North America at least, seems to be indifferent to climate or surroundings, was more generally distributed over the region under consideration than any other bird except the Turkey Buzzard. Thus I saw it in all the valley towns, careering madly over the streets and housetops; on the Swannanoa and French Broad Rivers, skimming close to the surface and occasionally dipping down to drink; circling over the oak woods on the mountain sides; and about their summits, sweeping close to the tops of the spruces or wandering aimlessly through space in the blue dome above. Like the Buzzard, its unusual power of wing enables it to traverse miles of air almost without thought or effort, and the bird that now drinks in the Swannanoa may be, a few moments later, hawking for insects above Mitchell's High Peak, twenty miles away. Nevertheless the species certainly nests, as well as flies, at various elevations, for I saw it entering chimneys in the towns, and hollow oaks high on the mountain sides.

27. *Trochilus colubris*. **RUBY-THROATED HUMMINGBIRD**.—Rather common, ranging from 2000 to 5000 feet.

28. *Tyrannus tyrannus*. **KINGBIRD**.—Seen only about Asheville, where a few haunted the shade trees in the town and the belt of timber bordering the Swannanoa River.

29. *Myiarchus crinitus*. **GREAT CRESTED FLYCATCHER**.—A common and very generally distributed species, ranging from the lower valleys up to at least 4500 feet. Naturally the open oak woodlands were its favorite haunts, and throughout these its loud, penetrating call was one of the most characteristic sounds.

30. *Sayornis phœbe*. **PHœBE**.—Very common along streams, nesting usually, if not exclusively, under rocks and earth banks away from buildings. I did not find it at a greater elevation than 3000 feet.

31. *Contopus borealis*. **OLIVE-SIDED FLYCATCHER**.—Over the extensive plateau occupying the extreme southeastern corner of Macon County this fine Flycatcher was not uncommon. As in New England, it was usually found about the edges of clearings or along the courses of the mountain streams where, perched on the slender pinnacle of some tall

pine or hemlock, it sent its loud notes ringing over the neighboring country. At Highlands several pairs were established, and apparently preparing to breed, in a white pine swamp near the heart of the village. A specimen shot here is identical with northern ones. I did not find the species on the Black Mountains.

32. *Contopus virens*. WOOD PEWEE.—In most of the extensive forests visited, from the lower valleys to about 4000 feet, I occasionally heard the sad, plaintive voice of the Wood Pewee. It was commonest in the open woodlands about Highlands, but even here was not really numerous.

33. *Empidonax acadicus*. ACADIAN FLYCATCHER.—Everywhere below 3000 feet this Flycatcher was a very common species, inhabiting all kinds of cover, but occurring most numerously in rhododendron thickets bordering streams, where its abrupt, explosive note of *wicky-up* could be heard at all times of the day. It is one of the tamest and least suspicious of the small Flycatchers, but owing to its retiring disposition, and habit of sitting perfectly motionless among the foliage, it is much oftener heard than seen.

34. *Empidonax minimus*. LEAST FLYCATCHER.—Of sparse, but at the same time general, distribution, nowhere common. Thus a day rarely passed without two or three being noted, while I do not remember ever finding more than a pair in any one locality. They were usually met with in scrubby oak growth near streams, and were invariably very noisy, their notes and habits being precisely as at the North. The highest point at which the species was seen was about 4000 feet, the lowest 2000.

35. *Corvus corax sinuatus*. RAVEN.—Common almost everywhere above 3000 feet, below which altitude it is replaced by the Crow (*C. americanus*). Rather curiously, the two species do not seem to occur together here, at least during the breeding season. At Highlands I was told that the Ravens do not molest corn or other crops but are very destructive to poultry, killing many young chickens and turkeys. I failed to secure a specimen, but those which I saw living looked unusually large. Their notes were precisely the same as at the North. They were frequently met with in open oak woodland, and were usually pursued by Jays, Robins, and other small birds. Swannanoa, the Indian name of the beautiful little river that flows through Asheville, is said to signify "the swish of the Raven's wing."

36. *Corvus americanus*. CROW.—Common throughout the lower portions of the region, but nowhere as numerous as at the North.

37. *Cyanocitta cristata*. BLUE JAY.—Abundant everywhere, ranging over the tops of even the higher mountains, where I often heard its shrill voice among the balsams. It is most numerous, however, in open oak woodland at mid-elevations.

38. *Agelaius phoeniceus*. RED-WINGED BLACKBIRD.—Apparently confined to the lower valleys, where every little meadow harbored a few pairs. As meadows, even of small extent, are by no means numerous, these Blackbirds were seen in only a few localities.

39. *Sturnella magna*. MEADOW LARK.—I heard of the Meadow

Lark at several places, but did not happen to meet with it living. At Highlands two skins were shown me, and I was told that it occurs numerously in the vicinity during autumn and winter. It is said to breed sparingly throughout the region, and there can be little doubt that this is true, although I have no proof of the fact.

40. *Icterus spurius*. ORCHARD ORIOLE.—Common throughout the low country, especially in or near towns, where its rich, flowing song was frequently heard among the trees shading the noisiest streets.

41. *Icterus galbula*. BALTIMORE ORIOLE.—The distribution of this species in the region under consideration is somewhat remarkable. About Asheville it is not uncommon, and I noted several there daily, either in the fine old oaks that ornament so many of the cultivated grounds, or among the sycamores and red birches which overhang the neighboring Swannanoa. At Highlands I saw a single male—an unusually brilliant one—which I was told was the only bird of its kind in the vicinity. Elsewhere I searched for the species in vain. Of course it may occur in other localities, but throughout the region at large it is certainly rare and very locally distributed.

42. *Quiscalus quiscula?* PURPLE GRACKLE.—At Asheville several pairs of Crow Blackbirds were breeding in a cluster of white pines in the heart of the town. Of course it was impossible to shoot any of them here—hence the ? attached to the specific name, which possibly should be followed by the sub-specific term *aeuus*. As nearly as I could make out, however,—and I had a close view of several of the males—the form was true *quiscula*.

43. *Carpodacus purpureus*. PURPLE FINCH.—At Old Fort, May 23, the Purple Finch was abundant, in full song, and apparently breeding, but to my surprise it was not afterwards met with, although I searched for it carefully, especially in the balsam forests on the Black Mountains.

44. *Loxia curvirostra minor*. AMERICAN RED CROSSBILL.—Seen only on the Black Mountains, where it was numerous in small flocks throughout the balsam forests above 5000 feet. At Highlands I was told that it regularly appeared in winter about the outskirts of the town. I failed to secure specimens.

45. *Spinus tristis*. AMERICAN GOLDFINCH.—Nowhere very numerous, but generally distributed over the low country and mountain sides to at least 5000 feet.

46. *Spinus pinus*. PINE LINNET.—On the morning of June 2 I found these Linnets rather numerous near the lower ledge of the balsams on the Black Mountains at an elevation of about 5200 feet. They were not seen above this point, but they doubtless range over the upper portions of these mountains, as well as, probably, other extensive tracts of 'black growth' in the surrounding region. The males were in full song at the time of my visit.

47. *Ammodramus savanarum passerinus*. YELLOW-WINGED SPARROW.—In sandy, sorrel-grown fields near Franklin these Sparrows were common and apparently breeding. The species was not seen elsewhere.

48. *Spizella socialis*. CHIPPING SPARROW.—Quite as common, ubiquitous, and familiar as in New England. I did not find it above 4000 feet.

49. *Spizella pusilla*. FIELD SPARROW.—Less numerous than the Chippy, but of equally general distribution, occurring most frequently in steep, bush-grown pastures on the mountain sides, but often in open oak or chestnut woodland. Its song differed markedly from that of our New England bird; as a rule it was higher-pitched, shriller, and less melodious.

50. *Junco hyemalis carolinensis*, susp. nov. CAROLINA JUNCO.

SUBSP. CHAR:—Differing from *J. hyemalis* in being larger, with lighter, bluer, and more uniform coloration, and a horn-colored, instead of pinkish-white or yellowish, bill.

♂ ad. (No. 10597, Black Mt., North Carolina, June 2, 1885. W. B.). Middle of breast behind and of the belly, under tail-coverts, and outer three tail-feathers, white, the third feather with a narrow inner edging of slate-color; remainder of plumage deep bluish or ashy plumbeous, the crown and back concolor, the throat a shade lighter, no blackish anywhere except on the wings and tail, the feathers of which are nearly, if not quite, black with grayish-plumbeous outer edging; bill (in the dried specimen, I unfortunately neglected to note its color in fresh birds) dark horn-color. Wing, 3.20; tail, 2.70; bill, .51.

♀ ad. (No. 10567, Highlands, N. C., May 28, 1885. W. B.) Smaller than the ♂ and generally lighter colored, with a tinge of brownish above

MEASUREMENTS.

Junco hyemalis carolinensis.

Cat. No. Col. W. B.	Sex.	Locality.	Date.	Wing.	Tail.	Culmen from base.	Culmen from feathers.	Culmen from nostril.	Depth of bill at nostril.	Remarks.
10566	♂ ad.	Highlands, N. C. . . .	May 28, '85	3.00	2.80	.50	.43	.33	.25	
10593	♂ ad.	Black Mountain, N. C.	June 1, "	3.20	2.80	.52	.43	.35	.24	
10594	♂ ad.	" "	" 1, "	3.17	2.82	.55	.45	.35	.24	
10597	♂ ad.	" "	" 2, "	3.20	2.70	.51	.43	.35	.25	Type.
10559	♂ ad.	Highlands,	May 28, "	3.05	2.86	.50	.46	.30	.25	
10567	♂ ad.	" "	" "	2.98	2.67	.51	.43	.33	.23	Type.

J. hyemalis.

2741	♂ ad.	Upton, Me.	June 12, '72	3.04	2.65	.50	.40	.33	.24	
2742	♂ ad.	" "	" 12,	2.95	2.61	.50	.42	.32	.25	
9701	♂ ad.	Shelburne, N. H. . .	July 21, '84	2.97	2.73	.49	.40	.32	.23	
9333	♂ ad.	Mt. Washington, N.H.	" 12,	3.12	2.65	.47	.40	.31	.23	
9335	♂ ad.	" "	" 12,	2.80	2.47	.46	.41	.31	.25	
9344	♀ ad.	Shelburne,	" 15,	2.85	2.55	.50	.42	.33	.23	

I should hesitate to propose a new race in a group which has already given so much trouble, were it not that the characters just mentioned are remarkably constant in the series of six specimen before me. The bird is much larger than *hyemalis*, and its general coloring is lighter, clearer, and bluer, as well as more uniform, the crown being perfectly concolor with the back, which is rarely, if ever, the case in *hyemalis*. The dark color of the bill also is an apparently good point of difference, at least between the bird under consideration and *hyemalis* of New England and northward, for in a series of some fifty specimens of the latter I do not find one which possesses this character, the bills of all being straw-yellow with sometimes a pinkish suffusion. Among a smaller number taken in early spring at Washington, D. C., however, are several with bills colored precisely as in the North Carolina birds. In other respects, however, these specimens are identical with *hyemalis* proper. It is probable that they represent the form which breeds on the mountains of Virginia and Pennsylvania and which naturally would be in varying degrees intermediate between the extreme northern and southern types. Linnæus, it should be mentioned, based his *Fringilla hyemalis* on the *F. nivalis** of Catesby, but the latter author's description clearly relates to our northern bird, which occurs numerously in winter throughout the low country of the Carolinas, while this large form appears to be resident in the mountains.

This new and interesting race of our northern Junco was found only at Highlands and on the Black Mountains, but it doubtless occurs at other points wherever the country is sufficiently elevated to suit its boreal temperament. About Highlands it was seen everywhere; flitting along the snake fences that border the fields and roads, twittering shyly in the depths of the 'laurel' swamps, flirting unexpectedly from beneath the oaks in the open woodlands, and on the grassy, wind-swept mountain summits, hopping fearlessly among our horses or peering curiously at their riders.

On the Black Mountains it was decidedly the commonest bird, ranging from an elevation of about 4300 feet to the very top of Mitchell's High Peak. It was here found quite as numerously in the hardwood forests below 5000 feet as among the spruces and balsams above that altitude. The mountain people call it 'Snowbird,' and say that it spends the winter in the lower and more sheltered valleys, returning to the mountain sides as soon as spring begins. Thus it is doubtless a local and essentially resident form.

I am indebted to Mr. Boynton for two sets of four eggs each, with the nests, taken at Highlands, respectively June 30 and July 7, 1885. The eggs are larger than those of *hyemalis* but similar in color and markings. The nests are also larger and composed of coarser material, although both are lined neatly with horse-hair. The one collected July 7 was placed "in a bank by the roadside," a site often chosen by our northern bird, but the other was built in "a berry bush in a garden, *four feet above the ground*," and hence in a situation never occupied, I believe, by the nest of *hyemalis*.

* Catesby's Car., I, p. 37.

Both sets of eggs were perfectly fresh, a fact which proves that the bird breeds very irregularly and probably at least twice in the same season, for I saw young on wing as early as May 29, and on the preceding day was shown a nest which the birds were just finishing.

51. *Peucaea aestivalis bachmani*. BACHMAN'S FINCH.—A single specimen, taken at Franklin, was the only one met with. It was singing in an old field grown up to sassafras sprouts. This specimen is in many respects unlike any in my large series from South Carolina, Alabama, Texas, and Illinois. In certain particulars, especially the size and shape of the bill, and the color and markings of the upper parts, it bears a close resemblance to *P. arizonæ*. Probably these peculiarities are individual; but I note them for the benefit of those who may have an opportunity of examining more material from this region.

52. *Pipilo erythrophthalmus*. RED-EYED TOWHEE.—Generally distributed, but nowhere very common. Its favorite haunts were thickets along wood edges, and brush-grown fences. The song was uniformly unlike that of our New England bird, but it varied so with different individuals and in different localities that this fact has little significance. I shot only one specimen, a female, which had the irides of the usual deep red.

53. *Cardinalis cardinalis*. CARDINAL GROSBEAK.—Confined to the lower valleys, where it was usually found in thickets along streams. It was nowhere at all numerous; indeed I rarely saw more than one or two pairs in a single day.

54. *Habia ludoviciana*. ROSE-BREASTED GROSBEAK.—I found this species only in the country about Highlands and on the Black Mountains. In the former locality it ranged from (approximately) 3500 to 4500 feet; in the latter from 3800 to 5000 feet; in both it was far more abundant than I have ever seen it at the North. Its favorite haunts were the open oak woodlands so frequently mentioned in this paper. Throughout these, at all times of the day, I was rarely out of hearing of its voice. The song did not seem to differ from that of our northern bird, but what a superb performance it is whenever heard—so rich, flowing, and withal so tender and plaintive! I know of no bird-voice more expressive of feeling and sentiment.

55. *Guiraca cærulea*. BLUE GROSBEAK.—I met with only a single specimen of this species, a female seen June 1, in an apple orchard near Asheville. This bird was at one time within a few feet of me, and I have no doubt whatever as to its identity.

56. *Passerina cyanea*. INDIGO BIRD.—Abundant everywhere, ranging upward to at least 4500 feet. Especially numerous about the edges of pastures and other clearings on the mountain sides, but also very generally distributed throughout open woodland. Song and habits normal.

57. *Piranga erythromelas*. SCARLET TANAGER.—Abundant everywhere in hardwood timber and second growth, ranging from the lower valleys nearly or quite to 5000 feet (Black Mountains). The song is normal, the call note *chip-churr*, as in New England, not *chip-prairie*, as in Southern Illinois. My single specimen shows no peculiarities.

58. *Piranga rubra*. SUMMER TANAGER.—It is probable that this species occurs more or less commonly and generally over the lower portions of the plateau region, but I found it only on the eastern slope of the Blue Ridge, at Old Fort, where it was about as numerous as *P. erythromelas*.

59. *Progne subis*. PURPLE MARTIN.—Common in most of the towns and villages, building chiefly if not wholly in Martin boxes.

60. *Stelgidopteryx serripennis*. ROUGH-WINGED SWALLOW.—The characteristic Swallow of the valley region, common almost everywhere throughout the settled country up to about 2500 feet, and nesting in ledges and clay banks formed by railroad cuttings or the erosion of streams.

(NOTE.—I believe I saw the Bank Swallow once or twice, but I did not identify it fully. The Barn, White-bellied, and Eave Swallows were apparently absent.

61. *Ampelis cedrorum*. CEDAR BIRD.—Very common everywhere. Seen in greatest numbers along streams, catching flies over the water. On the Black Mountains I found a pair which were apparently about to breed in some spruces bordering a clearing at 5000 feet altitude.

62. *Vireo solitarius alticola*, subsp. nov. MOUNTAIN SOLITARY VIREO.

SUBSP. CHAR.—Differing from *solitarius* proper in being larger, with a stouter bill, and duller, darker, and more uniform coloring above.

♂ ad. (No. 10577, Highlands, Macon County, North Carolina, May 29, 1885. W. Brewster). Above dusky, almost blackish, plumbeous, slightly tinged with greenish on the rump, back and wings; beneath white, the sides yellow, washed with dusky-olive; wings dark brown, all the feathers except the first primary with light, slightly greenish outer edges and white inner ones; the wing-coverts tipped with dull white, forming two bands; tail-feathers similar, but the outer pair edged externally with white, the inner pair without white on their inner margins; a narrow white ring encircling the eye, interrupted anteriorly by a blackish loral spot, and beyond this extending forward to the nostril in an imperfectly-defined whitish line, which is only continuous when the feathers are disarranged so as to expose their bases.

Four other specimens (three from the same locality, one from the Black Mountains), are essentially similar, but two of them have the orbital ring and line to the nostrils pure white and well defined, although it is not as broad and conspicuous in any of them as in true *solitarius*.

This new form may be easily distinguished from *solitarius* by its larger size, heavier bill, and different color of the upper parts. In *solitarius* the crown and sides of the head are clear, pure ash, in strong contrast with the olive green of the back and rump, whereas in *alticola* the entire upper parts are nearly uniform blackish-plumbeous, with only a faint tinge of greenish on the back, which is essentially concolor with the crown. In these respects the bird resembles *V. plumbeus*, but its coloring above is darker and dingier, its sides strongly yellowish, as in *solitarius*. From *cassini* and *propinquus* it differs too widely to require special comparison.

Habitat. Mountains of Western North Carolina.

MEASUREMENTS.

Vireo solitarius alticola.

Cat. No. Col. W. B.	Sex.	Location.	Date.	Wing.	Tail.	Tarsus.	Culmen from base.	Culmen from feathers.	Culmen from nostril.	Depth of bill at nostril.	Re- marks.
10554	♂	Highlands, N. C. . . .	May 27, '85	3.23	2.31	.72	.55	.44	.31	.17	
10555	♂	" "	" 28, "	3.03	2.21	.75	.52	.40	.30	.17	
10556	♂	" "	" 29, "	3.05	2.22	.72	.60	.49	.36	.20	
10577	♂	" "	" 29, "	3.16	2.30	.75	.60	.48	.35	.18	Type.
10607	♂	Black Mountain, N. C.	June 2, "	3.30	2.30	.73	.59	.46	.30	.18	

Vireo solitarius.

9350	♂ ad.	Shelburne, N. H. . . .	July 15, '84	2.95	2.17	.75	.57	.41	.31	.16	
9293	♂ ad.	" "	" 8, "	2.86	2.15	.73	.56	.41	.32	.15	
7386	♂ ad.	" "	" 7, '82	2.84	2.05	.69	.49	.37	.27	.15	
4593	♂ ad.	Upton, Maine	May 27, '79	2.82	2.05	.71	.51	.40	.30	.16	
5391	♂ ad.	" "	" 15, '81	2.98	2.25	.72	.57	.41	.30	.16	

Throughout the elevated plateau occupying the southeastern corner of Macon County, this new Vireo was one of the most abundant forest birds. It was found exclusively in open oak and chestnut woods, where its ringing voice, mingling with the rich music of the equally numerous Grosbeaks (*Habia ludoviciana*) and Scarlet Tanagers (*Piranga erythromelas*), was rarely still even at noontide. Its song was somewhat like that of *solitarius*, but to my ear much finer, many of the notes being louder and sweeter, and the whole performance more continuous and flowing.

On the Black Mountains it was also a very common and conspicuous bird, ranging from about 4200 feet to the lower edge of the balsams (5000 feet) and inhabiting woods similar to those just described.

(*To be concluded.*)

ADDITIONS TO THE CATALOGUE OF KANSAS BIRDS.

BY N. S. GOSS.

SINCE the publication of my Catalogue of the Birds of Kansas in 1883, the following additions* have been made, which I here

* [The nomenclature here followed is that of the forthcoming A. O. U. Check List.
—EDD.]

give in advance of the new work I am preparing on Kansas birds, the publication of which is delayed in order to enable me to adopt the classification and nomenclature of the new A. O. U. Check-List now in press. As some of these additions have been already recorded in 'The Auk,' it is thought sufficient in this connection to merely refer to the place of record.

1. *Tachyptetes aquila*. MAN-OF-WAR BIRD.—A straggler. Mr. Frank Lewis, of Downs, Kansas, reports to me the capture of this bird on the North Fork of the Solomon River, Osborne County, August 16, 1880. It was killed with a stone while sitting on a tree. The specimen has passed out of his hands; but he sends me a photograph of the bird, taken after it was mounted, which removes all doubts as to its identification. The birds are strictly maritime, and largely parasitical in habits. Their home is on the coast of tropical and sub-tropical America. They are known to be great wanderers along the sea-board; but this is, I think, the first record of its being found away from the coast, and to straggle so far inland it must surely have been crazed or bewildered.

2. *Anas fulvigula*. FLORIDA DUCK.—Migratory; rare. Arrives about the middle of March. I captured a female at Neosho Falls, March 11, 1876. I have shot one since, and observed two others in the State. The birds were entered in my first Catalogue as *A. obscura*.

3. *Porzana noveboracensis*. LITTLE YELLOW RAIL.—Summer resident. Rare. Prof. L. L. Dyche, Curator of Birds and Mammals, State University, writes me that April 18, 1885, he captured one of the birds (a female) on low, wet land, about five miles southeast of Lawrence. The specimen is mounted, and in the fine collection under his charge. It is the first bird, to my knowledge, captured or seen in the State. But this is not strange, as the birds inhabit the marshy grounds, and at the least alarm, run, skulk, and hide in the reeds or grass, and it is next to impossible to force them to take wing. Therefore it is seldom seen, even where known to be common. I enter the bird as a summer resident, because it has been found both north and south of us, and is known to breed within this geographical range. Nests on the ground.

October 1, Professor Dyche captured on the Wakarusa bottom lands, two and a half miles south of Lawrence, another of the little birds, a female, and he thinks a *young* bird. The lucky finds were both caught by his dog.

4. *Gallinula galeata*. FLORIDA GALLINULE.—Prof. F. H. Snow writes me, under date of October 20, 1885, that since the publication of his 'Birds of Kansas,' in 1875, he has personally obtained in the State two specimens of *Gallinula galeata*. The first was captured by himself, June 14, 1878, on the Hackberry, in Gove county. The second, by a friend in the vicinity of Lawrence. The bird was entered in his Catalogue on the authority of Professor Baird, and at the time of the publication of my Catalogue, in 1883, they were known to breed both north and south of the State, and it was therefore safe to enter it as a Kansas bird. But my

List only embraced the birds that came under my observation, and that of others as reported to me. From the fact that the birds nest throughout their geographical range, and from its capture so late in June, I enter it as a rare summer resident. I have found the birds nesting in Wisconsin as early as the middle of May. They nest in rushes and reeds growing in shallow water, or on swampy lands, building on the tops of old broken down stalks. The nest is composed of weeds and grasses; also the leaves of the cat-tail flag, when growing in the vicinity. It is a circular structure, and in some cases quite deep and bulky. Eggs usually eight to ten, buff white, thinly spotted and splashed with varying shades of reddish brown. One set of thirteen, collected May 25, 1878, on a bog in Pewaukee Lake, Wisconsin, measured as follows: 1.63 X 1.18; 1.84 X 1.27; 1.67 X 1.18; 1.60 X 1.16; 1.67 X 1.18; 1.78 X 1.30; 1.81 X 1.29; 1.79 X 1.29; 1.88 X 1.27; 1.70 X 1.16; 1.80 X 1.30; 1.75 X 1.18; 1.80 X 1.28.

5. *Himantopus mexicanus*. BLACK-NECKED STILT.—Mr. W. H. Gibson, taxidermist, formerly of Topeka, now of Las Vegas, New Mexico, informs me that he saw three of these birds about the middle of June, 1881, on low, wet ground, near the Arkansas River, at Lakin. Without doubt, the birds occasionally breed in Southwestern Kansas.

6. *Buteo borealis krideri*. KRIDER'S HAWK.—See Auk, I, Jan. 1884, p. 100.

7. *Geococcyx californianus*. CHAPARRAL COCK.—An occasional visitor to Western Kansas. Mr. Charles Dyer, Div. Supt. of the A. T. & S. F. R. R., at Las Vegas, New Mexico, writes me that in September, 1884, he saw two of the birds near the railroad, and about fifteen miles east of the west line of the State, and that he has seen them quite often in Colorado, near the State line. The birds are known to breed as far east as Las Animas, and I feel confident that they occasionally breed in the southwestern corner of this State,—a natural habitat of the birds, but unsettled and little known, especially as to its bird life.

8. *Bubo virginianus subarcticus*. WESTERN HORNED OWL.—October 29, 1885, I shot a male in the timber skirting the south fork of Beaver Creek, in Rawlins County.

9. *Sphyrapicus varius nuchalis*. RED NAPED SAPSUCKER.—See Auk, I, Jan. 1884, p. 100.

10. *Passerculus sandwichensis alaudinus*. WESTERN SAVANNA SPARROW.—Migratory. October 14, 1885, I shot one of the birds, a male, near Lake Inman, in McPherson County, and saw several others. I am inclined to think they will prove to be quite a common bird in the western part of the State, but they so closely resemble *P. sandwichensis savanna* that they have not been noticed. The birds are, however, considerably smaller and paler in color—a bleached race of the Plains.

11. *Zonotrichia intermedia*. INTERMEDIATE SPARROW.—See Auk, I, Jan. 1884, p. 100.

12. *Passerina ciris*. NONPAREIL.—See Auk, II, July, 1885, p. 276.

13. *Vireo atricapillus*. BLACK-CAPPED VIREO.—See Auk, II, July 1885, p. 274.

14. *Icteria virens longicauda*. LONG-TAILED CHAT.—A summer resident in the western part of the State; not uncommon. In habits and actions it resembles the Yellow-breasted Chat, but its note and song are slightly different. The birds were reported by Prof. F. H. Snow, in Transactions of the Kansas Academy of Science, Vol. VI, p. 38, as "Taken along the Smoky Hill River, in Western Kansas by S. W. Williston, in May, 1877"; but by oversight omitted from my first Catalogue. Attention was immediately called to the same (see Bulletin of the Nuttall Ornithological Club, Vol. VIII, p. 227). June 2, 1885, I shot two of these birds on Crooked Creek, in Meade County, and saw several others.

15. *Thryothorus bewickii bairdi*. TEXAN BEWICK WREN.—Resident; not uncommon in Southwestern Kansas. Nests in deserted Woodpecker holes, hollow logs, or any nook it may fancy; nest composed of sticks, roots, straws, and grasses, and lined with fur and a few downy feathers; quite bulky, generally filling the space, but in no case, I think, roofed over. Measurements of five eggs, taken at Corpus Christi, Texas, May 9, 1882: .63 X .50; .63 X .50; .63 X .50; .63 X .49; .62 X .49. Eggs white, speckled with light and dark shades of reddish brown, thickest around the larger end. The bird was entered in my first Catalogue as *T. bewickii*.

16. *Merula migratoria propinqua*. WESTERN ROBIN.—See Auk, I, Jan. 1884, p. 100,

The following species have been found breeding in Kansas since the publication of my Catalogue.

1. *Podilymbus podiceps*. PIED-BILLED GREBE.
2. *Hydrochelidon nigra surinamensis*. BLACK TERN.
3. *Sterna antillarum*. LEAST TERN.
4. *Spatula clypeata*. SHOVELLER.
5. *Gallinula galeata*. FLORIDA GALLINULE.
6. *Porzana noveboracensis*. LITTLE YELLOW RAIL.
7. *Rallus virginianus*. VIRGINIA RAIL.
8. *Aquila chrysaëtos*. GOLDEN EAGLE.
9. *Pica pica hudsonica*. AMERICAN MAGPIE.
10. *Passerina ciris*. NONPAREIL.
11. *Ammodramus caudacutus nelsoni*. NELSON'S SHARP-TAILED SPARROW.
12. *Vireo atricapillus*. BLACK-CAPPED VIREO.
13. *Icteria virens longicauda*. LONG-TAILED CHAT.
14. *Troglodytes aëdon parkmani*. WESTERN HOUSE WREN.
15. *Thryothorus bewickii bairdi*. TEXAN BEWICK'S WREN.

THIRD MEETING OF THE AMERICAN ORNITHOLOGISTS' UNION.

THE third meeting of the American Ornithologists' Union was held at the American Museum of Natural History in New York

City, November 17 and 18, 1885. Rather more than one-third of the Active Members were present—the same number as last year—and quite a number of Associate Members, several of whom presented papers and took part in the scientific discussions. The Secretary and Treasurer in presenting his official report referred especially to the flourishing condition of the Union, and its improved financial status over that of last year. He stated that but one death had occurred among its members since the last meeting,—that of Dr. H. A. Atkins, of Locke, Michigan, an Associate Member, well known among ornithologists for his work on the birds of Michigan.*

The report of the Council referred to the completion and acceptance of the 'Code of Nomenclature and Check List of North American Birds,' in accordance with resolutions adopted at the last meeting of the Union. The report of the Committee on the European House Sparrow, and the documents relating to the work of the Committee, had been received by the Council, and the material gathered by the Committee had been placed at the disposal of the Department of Agriculture, and, it is expected, will be shortly published as a 'Bulletin' of the Department, under the supervision of the Ornithologist (Dr. C. Hart Merriam) in charge of the work on Economic Ornithology. The report from the Council stated, regarding memberships, that there was no vacancy in the class of Foreign Members, and only three in the class of Active Members. In view of the small number of vacancies in this class, and the fact that a desirable change in the Constitution affecting the manner of electing members to the Active list had been suggested, the Council deemed it advisable to defer further elections till the proposed constitutional amendment could be acted upon. Prof. Fernando Ferrari-Perez, Naturalist of the Mexican Geographical Exploring Commission and President of the State University of Pueblo de Saragosa, and Gustav von Hayek, Secretary of the International Ornithologists' Union, Vienna, Austria, were proposed for Corresponding Members. Both were elected, as were the candidates recommended for election to the class of Associate Members.

The amendments to the Constitution proposed last year† were all adopted.

* See *Auk*, II, p. 391.

† See *Auk*, I, p. 370.

The reports of Committees comprised two only—that on the Geographical Distribution and Migration of North American Birds, and that on the Protection of Birds. The Chairman of the first-named Committee, Dr. C. Hart Merriam, presented a very full report, detailing at length the progress of the work and its present status, only an abstract of which can be here presented. Last fall a new and much improved form of circular was prepared and sent out, in provision for the spring migration of the present year. A special circular was also sent to keepers of lighthouses and lightships, and schedules for returns were distributed to all of the Committee's observers, some 1200 in number. These schedules, it is gratifying to observe, have been received with so much favor abroad that they have been translated and republished in several European languages, and reprinted in full in 'Ornis,' the organ of the International Ornithologists' Union.

Final reports have been received from Prof. W. W. Cooke, Dr. J. M. Wheaton, Mr. L. S. Foster, and Mr. William Dutcher; and Mr. L. Belding has in preparation a very elaborate report on the birds of California.

It became apparent more than a year ago that the work of this Committee was fast assuming such formidable proportions that the Union would soon be unable to sustain the financial burden thus entailed, and at the meeting of the Union last year the Council was instructed to prepare a memorial to Congress asking for Government aid. In considering this matter the Council decided to advise the establishment of a Division of Economic Ornithology under the Department of Agriculture, which should not only carry on the investigations necessary to a thorough understanding of the movements and distribution of our birds, but should also enter upon a systematic inquiry into their food-habits and practical relations to Agriculture. The Chairman of the Committee was accordingly requested to prepare and present a draft of a memorial, embodying this plan, to the Council, which was in due time received and approved by the Council.* The Chairman, on presenting this memorial to Congress, was accorded a hearing before the House Committee on Agriculture, through the assistance of Prof. C. V. Riley, Chief of the Division of Entomology of the Department of Agriculture. Prof. Spencer F. Baird had the kindness to appear before the Agricultural Committee and

* This memorial will be found printed in full in 'Ornis,' I, 1885, pp. 60-67.

personally urge the practical importance of the investigations thus proposed, while Senator Warner Miller, Chairman of the Committee on Agriculture, not only brought the memorial favorably to the notice of the Committee on Agriculture, but afterward made an influential speech in its behalf on the floor of the Senate, and secured for the work contemplated an appropriation of \$5000, after the item had been dropped in the House. It is thus to Senator Miller that ornithologists are indebted more than to any other person for the appropriation, as without his efficient aid the appeal to Congress would have been in vain. The House Committee on Agriculture, however, placed the work under the Division of Entomology, instead of creating for it an independent division, as contemplated in the memorial.

The appropriation became available July 1, 1885, at which time the investigations in Economic Ornithology now in progress under the Department of Agriculture were begun. The Council of the Union was invited by the Commissioner of Agriculture and Professor Riley—in recognition of the interest in the work manifested by the Union, and of its efforts in securing the appropriation from Congress for these investigations—to nominate a person to take charge of, and conduct, the work. This the Council did at a meeting held in Washington on the 21st of last April, unanimously and very fittingly selecting for this position the Chairman of the A. O. U. Committee on the Migration and Geographical Distribution of North American Birds, Dr. C. Hart Merriam, to whom also had fallen the labor of presenting the memorial and securing favorable action upon it. These investigations, now in progress under Government auspices, are thus the direct outgrowth of the work of the Union, and especially of that of its Committee on the Migration and Distribution of Birds. The vast amount of valuable material gathered by this Committee has now been turned over by the Union to the Department of Agriculture, for elaboration and publication; and the returns of the A. O. U. observers are now directly sent to the Department of Agriculture, which defrays the considerable expense necessarily involved in the preparation, distribution, and collection of the schedules, as well as the preparation of the returns for publication. The very elaborate and voluminous report prepared by Professor Cooke, with the assistance of Mr. Otto Widmann and Prof. D. E. Lantz, upon 'Bird Migration in the

Mississippi Valley,' is now ready for the press, and will be issued soon as Bulletin No. 10 of the Division of Entomology.

The investigation of the food habits of birds, in reference to their relation to agriculture—a subject well recognized as of the highest practical importance—has now been in progress for several months, and the amount of material already gathered for this purpose amounts to more than 1600 bottles of contents of birds' stomachs, later to be microscopically examined by competent experts in such investigations. The method adopted for the collection of data relating to what birds eat contemplates, in addition to the collection of birds' stomachs, the employment of competent observers in the field; the enlistment in the work of intelligent farmers throughout the country; and the collation of data already published. With this object in view a circular has been issued soliciting information on various points therein specified, and the assistance of those willing to aid in the collection of birds' stomachs. Copies of these circulars were sent to about 1000 of the regular observers of the Migration Committee, and also to the editors of agricultural papers and journals, and many farmers, throughout the country. From the Committee's observers alone, it is proper to note, have come eighty-seven per cent of the replies thus far received. The Department of Agriculture has already in preparation, and will soon issue, a Bulletin devoted to this branch of inquiry. The very cursory examination already made of the material gathered shows that results of great importance may confidently be anticipated from its final elaboration.

Mr. Allen, Chairman of the Subcommittee on Geographical Distribution, said that this division of the Committee was awaiting the data collected by the Subcommittee on Migration to become available for use in conjunction with that already accumulated, before attempting the preparation of a final report, which it was expected would largely take the form of maps prepared to show the range of each species, so designed as not only to indicate its entire North American range, but its breeding range, its area of winter residence, and the portions of country over which it occurred merely as a migrant. He called on Mr. Chadbourne, a member of the Committee, to whom was assigned the district comprising New England and that portion of Canada lying south of the St. Lawrence River and Gulf, to exhibit and explain a

series of provisional maps he had already prepared for his district. This led to a very interesting discussion of methods to be pursued in this kind of work, which was participated in by Dr. Merriam, and Messrs. Chadbourne, Allen, Brewster, and Sennett.

The report of the Committee on the Protection of Native Birds was made by Mr. Brewster, who stated that owing to ill health and the pressure of other duties, he had been prevented from entering actively into the work originally contemplated by the Committee, and had been obliged to resign the chairmanship. Owing to this and other adverse circumstances, the Committee had been unable to develop a systematic plan of work. He hoped the Committee would be continued, and would reorganize by choosing a chairman who could give the matter the attention and time its high importance demanded. The discussion following the report showed there was no lack of interest in the subject, and that active measures will be immediately taken towards the enlightenment of the public and the creation of a proper sentiment in relation to the wholesale slaughter of birds now going on for millinery purposes. Dr. Merriam regarded the work of this Committee as the most urgent now before the Union. The discussion, eliciting remarks also from Messrs. Brewster, Sennett, Allen, Dutcher, and others, not only led to the presentation of some startling statistics relating to the enormous destruction of bird life for hat decoration, but suggested certain lines of operation for the suppression of the evil.*

In addition to the reports of Committees, a number of interesting papers were presented, but lack of space prevents a proper notice of them in the present connection. Some of them, however, are given in the present issue *in extenso*, and others will doubtless appear in later numbers of 'The Auk.' Mr. E. P. Bicknell presented and explained by means of a chart a graphic method of representing the duration of the song-periods, and also the periods of migration, of the birds of Westchester County, New York, based on a long series of observations. The President called attention to the advantages this method obviously possessed for delineating the seasonal presence of species successively at different localities; and Dr. Merriam spoke of its ap-

* In this connection attention may be called to a paragraph under the head of 'Notes and News' in the present number of 'The Auk,' showing that the Committee has promptly and earnestly entered upon its work.

plicability on a large scale for the tabulation of data on bird migration.

Mr. G. B. Sennett explained his system of a card catalogue for ornithological collections, which led to remarks by Messrs. Allen, Brewster, and Merriam on the advantages of the card system in general, and its convenience for recording field notes and other observations, resulting in an interesting discussion of such practical matters as the preservation and arrangement, not only of miscellaneous notes, but of clippings and pamphlets.

Mr. L. S. Foster, superintendent of the District of Spanish America under the Committee on Bird Migration, gave some interesting statistics respecting the destruction of birds by striking against the lighthouse at Cape San Antonio, Cuba.

Mr. Brewster gave an account of his recent visit to Point Lepreaux, on the west shore of the Bay of Fundy, including very detailed observations of the manner in which birds strike the light-towers, the influences governing their movements at night, and of the way in which certain species start on their day-journeys to distant points. He also gave a very interesting account of his recent ornithological explorations in the mountains of North Carolina.*

Col. N. S. Goss presented a paper† on recent additions to the bird fauna of Kansas.

In the way of miscellaneous business an amendment was proposed, to be acted upon at the next meeting, affecting the method of election to Active membership. Resolutions of thanks were passed to Senator Warner Miller, and to Prof. Spencer F. Baird, for their efforts in securing from Congress an appropriation of \$5000, for the prosecution of investigations in Economic Ornithology; to Mr. George B. Sennett for his interesting stereopticon exhibitions of colored slides of birds (formerly the property of Mr. R. Bowdler Sharpe, of the British Museum), painted by the celebrated artist Keulemans, which he had given at the close of each day's session; and to the Trustees of the American Museum of Natural History for their kindness in placing rooms at the disposal of the Union for its meetings, and for their cordial invitation to accept similar hospitality next year.

* This paper will be given in 'The Auk,' the first part appearing in the present number, pp. 94-112.

† Given in abstract in the present number of 'The Auk,' pp. 112-115.

In accordance with a recently adopted amendment to the Constitution, respecting the offices of Secretary and Treasurer, it became necessary to elect a new Treasurer. The election for officers resulted in the choice of Mr. Charles B. Cory, for Treasurer, and the re-election of the previous incumbents.

After a very satisfactory two days' session, the Union adjourned to meet in Washington, the third Tuesday in November, 1886. The only regret seemed to be that the session was not allowed to occupy another day, a regret especially shared by members who had made a long journey to attend the meeting. A pleasant feature of the occasion was the presence of a number of Associate Members, and their active participation in the proceedings of the Congress. As less time will be necessary in future than heretofore for routine business and reports of Committees, future meetings will doubtless be devoted more largely to scientific papers, the presentation and discussion of which, it is already evident, will form an attractive feature of these annual gatherings of the American Ornithologists' Union.

RECENT LITERATURE.

Murdoch on the Birds of Point Barrow, Alaska.—Of the 'Report of the International Polar Expedition to Point Barrow, Alaska,'* recently published by order of Congress, the report on the 'Natural History,' by Mr. John Murdoch, occupies upwards of one hundred pages, of which twenty-three (pp. 105-128) are devoted to birds. Of the 54 species noted, 42 are water birds. With few exceptions, all were collected "within a circle of fifteen miles from the station at Point Barrow." There is, however, a supplemental list (p. 200) of 18 species "noticed at Plover Bay, Eastern Siberia, August 21 to 25, 1881." The period of observation at Point Barrow covered very nearly two full years. Considering that the locality is at the northern extremity of this continent, in latitude $71^{\circ} 16'$ north, and far remote from any other where continuous observations have been made for any consid-

* Report of the International Polar Expedition to Point Barrow, Alaska, in response to the Resolution of the House of Representatives of December 11, 1884. Washington: Government Printing Office, 1885. 4to, pp. 695, map, and numerous plates, mostly unnumbered. Part IV, Natural History. By John Murdoch, A. M., Sergeant Signal Corps, U. S. Army. Pp. 89-200.

erable period, Mr. Murdoch's report on the ornithology is necessarily one of high importance, through the light it throws upon the distribution of birds in the 'High North.' The report consists almost wholly of field notes, ranging, with different species, from a few lines to a page or two. Detailed descriptions, however, are given of the adult and immature plumages of the rare *Rhodostethia rosea* (Ross's Gull), and also two colored plates, illustrating respectively the adult male in winter plumage, and a young female in the first autumnal plumage. The expedition "succeeded in obtaining a large series of this rare and beautiful bird—more, in fact, than there were before in all the museums of the world—and a still larger series might have been obtained had the weather and other conditions been favorable. . . . In 1881, from September 28 to October 22, there were days when they were exceedingly abundant in small flocks—generally moving towards the northeast—either flying over the sea or making short excursions inshore. Not a single one was seen during the spring migrations or in the summer, but two or three stragglers were noticed early in September—a few out among the loose pack-ice—and on September 21, 1882, they were again abundant, apparently almost all young birds. They appeared in large, loose flocks, coming in from the sea and from the southwest, all apparently traveling to the northeast. Most of the flocks whirled in at the mouth of our lagoon and circled round the stations with a peculiarly graceful, wavering flight, and many were shot close to the house. A cold easterly wind was blowing at the time. They continued plenty for several days—while the east wind blew—all following the same track, moving up the shore, and making short excursions inland at each of the beach lagoons. After September 28 they disappeared until October 6, when for several days there was a large flight. On October 9, in particular, there was a continuous stream of them all day long moving up the shore a short distance from the beach, and occasionally swinging in over the land. *None were seen to return*" (pp. 123, 124). The birds are simply autumn visitors to Point Barrow, which is the only locality where they have been observed in abundance.

The King Eider (*Somateria spectabilis*) is said to be "the most abundant bird at Point Barrow," and quite a long and detailed account is given of its habits. The Pectoral Sandpiper (*Tringa maculata*) was also found to be a very abundant species, and we have here the first account of its eggs and breeding habits. "The nest is always built in the grass, with a decided preference for high and dry localities like the banks of gullies and streams. It was sometimes placed at the edge of a small pool, but always in grass and in a dry place, never in the black clay and moss, like the Plover and Buff-breasted Sandpipers, or in the marsh, like the Phalaropes. The nest was like that of the other waders, a depression in the ground lined with a little grass." The complete sets of eggs found always contained four, of the usual pointedly pyriform shape of those of other Sandpipers. Eighteen sets were examined. In color the eggs greatly resemble those of the Buff-breasted Sandpiper.

Very full and interesting notes are given respecting many other species,

but lack of space forbids a more extended notice of this important contribution, which is only one of a series of highly valuable reports by the same author upon the animals and plants obtained in the vicinity of Point Barrow. The Commander of the Expedition, P. H. Ray, First Lieutenant Eight U. S. Infantry, especially acknowledges the able and valuable assistance rendered by Mr. Murdoch throughout this eminently successful expedition.—J. A. A.

The 'Water Birds of North America'—A Few Corrections.—The excellent and exhaustive work on the 'Water Birds of North America,' lately issued by the Agassiz Museum of Comparative Zoölogy, is a model treatise as far as the labors of the authors whose names appear on the title-page could make it perfect; and for errors in quotations from others, chiefly compiled by the late Dr. Brewer, neither he, Professor Baird, nor Mr. Ridgway can be held responsible.

It is, however, an unfortunate circumstance that while so many are indirectly made contributors, they should have been unable to amend their notes when printed, as there is always new information accumulating, which more or less alters previous knowledge, especially in regard to habits of birds. It was probably impracticable to supply proof-sheets to all the naturalists quoted and still living while the printing was being done. In consequence, a large number of amendments and additions must remain for publication in other ways, the editors not having seen fit to add an appendix, as done with the three volumes of 'Land Birds.' The following corrections will be of interest, and relate chiefly to quotations from my own writings. I do not now undertake to give many additional observations.

In volume I, page 75, line 2, 'tule' should be printed *tulé*, it being the Spanish or Mexican name of the giant rush, *Scirpus lacustris*,—not properly speaking a "long grass." In Utah it is spelled Tooele, the lake thus named being within the range of Spanish travel, but should be pronounced Too-ly, in two syllables.

Page 115, line 3, for 'sport' read spout.

Page 116, line 10. *H. niger* breeds as far south as Santa Barbara Island. See quotation on next page, line 8.

Page 117, line 22 from bottom, for 'Malashka' read Unalaska.

Page 146, line 19 from bottom, for 'California' read Caledonia.

Page 233, near middle, Dr. Brewer overlooked my article in Proc. Cal. Acad. Nat. Sc., IV, 3, 1868, where I stated this species to be "not rare at San Francisco Bay in winter." The same article would have furnished other facts on 45 species of birds, chiefly additional to what he did quote.

Page 298, line 12, for 'western,' read eastern.

Page 320, line 6. The young birds I caught were probably *Limosa fedoa* (p. 255), which are described as very similar to the young of *Numenius* when not half grown. It is my recollection, however, that old Curlews were shot also, possibly barren birds. On p. 312 he also quotes my notice of *N. longirostris* in the same locality, but no other collector has found it breeding there.

Page 358, line 18. My notes are not correctly quoted. The bird was hid in a hole or cave in the rock, and when alarmed flew out alighting on San Francisco Bay.

Volume II, page 7, *Nettion crecca*. Also found not rarely in California. I gave it in the 'Additions,' etc., in Proc. Cal. Acad. Nat. Sci. 1868.

Page 37. The Ducks shot by Dr. Heermann in summer in California, were more probably females of some other kind than of *Mareca americana*, as the latter has not been found breeding in the United States.

Page 38, line 5 from bottom, for 'Kansas' read Texas.

Page 39, line 10 from bottom, for '1.35' read 2.35.

Page 51, near middle and elsewhere, for 'Conalitos' read Corralitos.

Page 87, line 21, for 'west' read coast.

Page 118, line 2, for 'smaller' read summer.

Page 143. The Brown Pelican of the West Coast was fully described by me as a common summer bird as far north as Shoalwater Bay, Lat. 47° , in P. R. R. Rep't, XII, iii, 1859, but San Francisco is given here as the northern limit, Dr. Brewer not quoting the Report, as in several instances. The adult plumage obtained by me at San Diego does not differ from that of Florida birds, but the colors of bill, pouch, etc. differed from both the Florida and Lower California birds, being intermediate, and quite variable.

Page 147. The notes on *Phalacrocorax carbo* do not agree with the distribution given on p. 145. Nuttall gives it as a bird of the Northwest Coast.

Page 288. In my 'Additions to the Fauna of California' in 1868, not quoted, I mentioned *Sterna elegans* as obtained in San Francisco Bay.

Page 336. I published a notice of the occurrence of this bird in San Francisco Bay (Proc. Cal. Acad. Sc. V, 415, 1875).

Page 365, line 8, for 'gong' read gony. In line 12 is a misquotation, apparently contradicting the previous part of the sentence. The birds seen by me were near shore.

Page 371, line 6 from bottom, for 'Tagers' read Yagers (from the German Jäger, a hunter).

Page 390. A blackish species, agreeing closely with *P. stricklandi*, is found on the California coast in company with *P. creatopus*, and I supposed it to be the same bird in young plumage, just as the former is supposed by some to be the younger *P. major*. The only one I obtained was not sent to Washington, therefore is not referred to, and I saw no reason to consider it new. The wing was $12\frac{1}{4}$ inches long (not 12), thus a little larger than in *stricklandi*, just as that of *creatopus* was $\frac{1}{4}$ inch longer than in *major*. The four named species should probably be reduced to one, and many similar combinations of species would be advantageous to the study of the water-birds.

Page 411. Mr. W. O. Emerson, of Haywards, obtained specimens this year at the Farallone Islands, California, of the size of *C. homochroa*, but in plumage approaching *C. melania*.

Page 424, line 18 from bottom, for 'Pueblo' read Pablo.

Page 428. A perfect albino, apparently of *C. holbælli*, was received from the Alaskan coast by Mr. Gruber of San Francisco, about 1874.

Page 448, line 13, for 'file' read pile (that is, arrow).

Page 486. I published the occurrence of the *U. lomvia (arra)* in San Francisco Bay, in the Proc. Cal. Acad. Sc. V, 414. 1875.

Page 502. Although the authors quote me in regard to color of bill, they have omitted my notes on finding *B. hypoleucus* breeding on Santa Barbara Island in 1863, where its habits, as far as observed, were similar to those of *P. aleuticus*, quoted on p. 519.

Page 519, line 20 from bottom, for 'dying' read rising.—J. G. COOPER.

Stejneger's Ornithological Explorations in Kamtschatka.—Among the more important ornithological works of the year 1885, Dr. Stejneger's 'Explorations in Kamtschatka'* easily takes a very high rank, and, as regards North American publications on this subject, marks an altogether 'new departure,' it being the first work in which the classification and nomenclature of the (still unpublished) A. O. U. 'Check-List' is systematically recognized. On this point the author says: "The systematical nomenclature will be found to deviate not inconsiderably from the one usually adopted in the publications treating of the region in question. The reason is a two-fold one, for in *identifying* the birds I have been anxious not to lump together nearly-related forms, representative species, subspecies, local races, migrating-route races, or whichever they are termed, giving the separation the benefit of the doubt whenever there be a doubt, it being my scientific creed that this is the least harmful course. In *naming* the forms thus identified I have strictly adhered to the rules laid down by the 'American Ornithologists' Union.' For changes in nomenclature of that origin I am, therefore, only partly responsible, and eventual critics should not charge against me 'the pleasure of bringing forward' these changes, which are the necessary results of the consistent application of the only sound principle upon which a scientific nomenclature can be based. The systematical arrangement is that which I proposed in 'Science Record,' 1884, p. 155, with a few modifications" (p. 7).

From this avowal of principles and methods the reader is prepared for innovations, both in respect to nomenclature and the status of species and subspecies. Since many ornithologists are disposed to avow the anti-thesis of Dr. Stejneger's 'creed' in respect to the separation of closely allied forms, and to let the doubt weigh in favor of non-separation—both sides are obviously susceptible of argument—probably the ground here taken is too radical to meet with general approval. The work before us displays, however, a thoroughness of research, a critical sifting of records and diagnoses, and detailed exactness of statement that stamps it as in

* Results of Ornithological Explorations in the Commander Islands and Kamtschatka. By Leonhard Stejneger. With nine plates. Washington: Government Printing Office, 1885. = Bulletin No. 29 of the United States National Museum. Published under the direction of the Smithsonian Institution. 8vo., pp. 382, pl. 8 and map, and 7 cuts in text.

many ways as a model monograph of its kind, and cannot fail to receive much hearty commendation, as well as, doubtless, some adverse criticism. Independence and originality, as well as thoroughness, are its marked features.

The work is divided into three parts. Part I is devoted to a review of the species of birds collected or observed by the author on the Commander Islands and at Petropaulski, Kamtschatka. Part II is a Synopsis of the birds hitherto reported to inhabit Kamtschatka. Part III is entitled 'Conclusions.' "The first and third parts," says the author, "are eminently the 'results of my explorations,' while the second part is more the 'result of my investigations,'" and is the first attempt at a "a complete list of the birds known to have been observed in Kamtschatka."

In Part I, occupying pages 11-310, 140 species are treated. Of each is given an extended table of bibliographical references, in the main relating especially to the region in question; full field notes follow, with tables giving lists of the specimens obtained, their measurements, and notes on the color of the bill, feet, iris, and soft parts taken from the freshly killed bird, contents of stomach, etc. Many questions of synonymy are discussed in detail, with frequently contrasted diagnoses of closely allied forms. The careful notes on the changes of plumage with age and season, and the shedding and renewal of the moulted parts of the bill in the various species of the Alcidæ, are especially important, notably supplementing and correcting previous observations on this subject, to which most of the illustrations in the text and five of the plates (all finely executed, and four of them beautifully colored) are devoted. Careful descriptions and colored figures from life are also given of the heads of several of the Petrels, Gulls, Geese, and Cormorants. Several pages are also devoted to the changes of plumage in the Ptarmigans.

As already said, the classification is practically the same as that adopted for the A. O. U. Check-List, but it differs from it in some particulars, as in the adoption of 'superfamilies' in place of suborders, and the consequent employment of different names for practically identical groups. Thus the order of Loons and Grebes is termed Cercomorphæ instead of Pygopodes.

A new genus, *Charitonetta*, is established for the Buffle-head Duck; *Cuculus peninsulae* is a new Cuckoo from the Commander Islands; the American form of *Aythya affinis* is separated from the Old World form, the latter being designated *A. affinis marilooides* (Vig.); and *A. marila* is similarly divided, the American form receiving the name *A. marila nearctica* Stejn. The American and Old World Goosanders are separated specifically. The American Bank Swallow is distinguished from the Old World form under the name *Clivicola riparia cinerea* (Vieill.). The American Barn Swallow is compared at length with its Old World allies, with the result of maintaining its specific distinctness. The Kamtschatskan and Alaska'n *Budytes* is separated from *B. flavus*, under the varietal name *leucostriatus* of Homeyer. It is also suggested that the examination of further material will show the propriety of recognizing a

Phyllopeustes borealis kennicotti, the two cases of *Budytes flava* and *P. borealis* being, in our author's opinion, "absolutely parallel." In considering these species Dr. Stejneger emphatically reiterates his creed, and says, under the head of *Budytes* (p. 183), "We have here before us a plain case demonstrating the necessity of recognizing [in nomenclature] the finest differences between related forms if the aim of collecting specimens and studying them is to find out the laws ruling the living nature. If the ornithological system and the ornithological science has for object only the convenience of the museum director in determining the names to be put on the label, then it may be proper and convenient to ignore the finer characters, and throw different forms into the same pot, because it is difficult to trace a sharp line between them, or because there are individuals which the perplexed director does not know how to enter upon the register. But it is time that such an ornithology should be done away with. The birds are not there for the sake of the museums, but the museums for the birds." When it becomes unsafe "to refer a specimen to one or the other form without having a series of both forms at hand, or without knowing the locality," there may be still "enough difference to warrant their subspecific separation"; but the utility of so doing seems open to question. We recognize, as strongly as any one, the importance of tracing out and noting these finer differences, but when the distinctions are so fine, though readily appreciable when the proper amount and kind of material is before one, that descriptions however minute and detailed fail to afford the means of recognizing such forms, and actual comparison of a specimen with a series representing the forms that may be in question, and a knowledge of the exact locality is also requisite to render the determination satisfactory, we submit that a degree of hair-splitting is reached which renders the recognition of such forms in systematic nomenclature a matter of highly doubtful propriety. The recognition of such forms becomes dependent not merely upon expert knowledge and tact in discrimination, but upon the possession of material few museums are able to acquire, and, generally speaking, quite beyond the resources of the private cabinet, and the efficiency of the most detailed technical descriptions. While such discriminations are of the highest importance in any consideration of the relations of animals to their environment, and the action of environment upon the evolution or modification of the forms of life, and should be most minutely noted, the recognition of such distinctions in nomenclature may readily be carried beyond the point of practical utility, since only the exceptionally favored few having access to the necessary material will be able to recognize such finely drawn lines, which serve only to mystify and embarrass the average student.

Part II of Dr. Stejneger's work (pp. 313-325) gives a list of 186 species of birds which are considered as authentically reported to inhabit Kamtschatka, while a number of others are referred to as having been attributed to Kamtschatka, but whose occurrence there requires confirmation. An Appendix to Part II (pp. 329-331) is mainly a critical commentary on recent papers on this subject by Dybowski and Taczanowski.

Part III, 'Conclusions' (pp. 333-358), relates mainly to a discussion of the component elements of the ornis of Kamtschatka and, incidentally, of the Commander Islands, and consists of a series of 'Tables' (numbered I to XX), showing the faunal relations of the various Kamtschatkan species, genera, etc., with explanatory and analytical text. The bird fauna of the Commander Islands is essentially Kamtschatkan, only eleven species occurring there which are either American or peculiar to the Islands. Of the Kamtschatkan species 22.3 per cent are 'Circumpolar,' 21.1 per cent are 'Palæarctic,' 16 per cent are 'Pacific,' 4.6 per cent are 'American,' 5.1 per cent 'Siberian,' and 30.9 per cent 'East Asiatic or peculiar.' The peculiarities of distribution displayed by certain species is the subject of much interesting comment.

The work closes with a sketch map of the region under consideration, a list of illustrations, and a very carefully prepared index.—J. A. A.

Torrey's 'Birds in the Bush.'*—Under this characteristic title, Mr. Torrey has presented the public with a collection of his field studies in bird life, most of them previously published in the 'Atlantic' or other literary magazines. The author is thoroughly in sympathy with the feathered denizens of field and wood,—a bird-lover of the ardent sort. His pages show that he is even more than this—a keen, discriminating field naturalist, able to correctly identify his birds—to a fair degree an ornithologist, with much book-knowledge of birds, as well as more than a speaking acquaintance with the birds themselves. He not only sees well, and listens well, but is able to tell felicitously what he has seen and heard. While the ornithologist will find in these pages much that is not new to him he will be interested and entertained by the manner of the telling, not a little that has never been so well told before, and not unfrequently features of bird-life delineated that have not before found their way into print. In short, the book is a delightful series of field studies, intermixed with a little moralizing from the bird point of view, seldom monotonous, and never wearisome,—a book which not only bird-lovers, but most ornithologists will find entertaining and instructive. An indication of the character of the contents may be derived from the following list of the titles of the Chapters: 'On Boston Common'; 'Bird-Songs'; 'Character in Feathers'; 'In the White Mountains'; 'Phillida and Coridon'; 'Scraping Acquaintance'; 'Minor Songsters'; 'Winter Birds about Boston'; 'A Bird-Lover's April'; 'An Owl's Head Holiday'; 'A Month's Music.'—J. A. A.

Holder's Catalogue of the Birds of Lynn, Mass.—Dr. Holder's original Catalogue† was published in December, 1846, as 'Number I' of the 'Publications of the Lynn Natural History Society,' and is therefore one of the earliest of the 'local lists.' It has been long out of print, and practically

* *Birds in the Bush.* By Bradford Torrey. Boston: Houghton, Mifflin and Company, 1885. 12 mo., pp. 300.

† Catalogue of the Birds noticed in the vicinity of Lynn, Mass., during the years 1844-'5-'6. By J. B. Holder. 8vo., pp. 8. No date. [Nov., 1885.]

inaccessible. It is a nominal list of 185 species; and its chief interest now is that of a 'pioneer' list. In its present form it is very nearly a literal reprint of the original (we are informed that a few typographical errors have been corrected). It can be had, we are desired to state, free of cost on application to the author, whose address is 'American Museum of Natural History, New York City.'—J. A. A.

Publications Received.—**Beckham**, Charles W. List of the Birds of Nelson County, Ky. 4to, pp. 58. (Kentucky Geol. Surv.)

Clark, William Eagle, and James Backhouse, Jun. An Autumn Ramble in Eastern Iceland, with some notes from the Faröes. (Ibis, Oct. 1885, pp. 364-380, pl. ix.)

Collett, Robert. Om 5 for Norges Fauna nye Fugle, fundne i 1883 og 1884. (Christiania Vidensk. Forhandl., 1884, No. 11. 13 pp.)

Dalgleish, John J. List of the Birds of Culross and Tulliallan. (Beveridge's 'Culross and Tulliallan,' Edinburgh, 1885. 12 pp.)

Gibson, Ernest. Notes on the Birds of Paisandú, Republic of Uruguay. (Ibis, July, 1885, pp. 275-283.)

Harvie-Brown, J. A. The Migration of Birds. A paper read to the Sterling Nat. Hist. and Archaeol. Soc., 24th March, 1885. Pp. 23. (Reprinted from the Sterling Journal and Advertiser.)

Holder, J. B. Catalogue of Birds noticed in the vicinity of Lynn, Mass., during the years 1844-'5-'6. (Reprinted from Publications Lynn Nat. Hist. Soc., No. I, Dec. 1846. Pp. 8, Nov. 1885.)

Lawrence, G. N. (1) Description of New Species of Birds of the Family Columbidae. (Auk, Oct. 1885, pp. 357-359.) (2) Description of a New Species of Bird of the Genus *Enyptila*, with Notes on two Yucatan Birds. (Ann. N. Y. Acad. Sci. IV, pp. 271-273, Dec. 1885.) (3) Characters of two New Species of Birds from Yucatan. (Ibid., pp. 273, 274.)

Murdoch, John. Report of the International Polar Expedition to Point Barrow, Alaska, [under command of Lieut. P. H. Ray, U. S. A.]. 4to., 1885. Part IV. Natural History. By John Murdoch, A. M. Serg. Sig. Corps, U. S. A.—Birds, pp. 104-128, 2 pll.

Reichenow, Anton. Bericht über die Leistungen in der Naturgeschichte der Vögel während des Jahres 1883. (Arch. f. Naturg. Jahrg. L, pp. 309-378.)

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Warren, B. Harry. (1) Diurnal Rapacious Birds, with special reference to Chester County, Pa. (Rep. Penn. Board Agric. 1884, pp. 96-112.) (2) The Common Crow Blackbird—Purple Grackle (*Quiscalus purpureus*). (Ibid., pp. 216, 217.)

Agassiz Journal. (Lynn, Mass.) I, Nos. 4-7, Sept.-Dec., 1885.

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American Naturalist, XIX, Nov., Dec. 1885.

Anzeiger, Zoologischer, Nos. 204-210, 1885.

Forest and Stream, XXV, Nos. 9-22.
 Hoosier Naturalist, I, Nos. 4, 5, Dec. 1885.
 Journal Cincinnati Soc. Nat. Hist. VIII, No. 3, Oct. 1885.
 Kansas City Review, IX, Nos. 2-5, Sept.-Dec. 1885.
 Michigan Sportsman's Association, Seventh Annual of the. 8vo., pp. 128, Grand Rapids, Mich., 1885.
 Naturalist, The. A Journ. Nat. Hist. for the North of England, Nos. 123-125, Oct.-Dec. 1885.
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 Ornithologist and Oologist, X, Nos. 10-12, Oct.-Dec. 1885.
 Proceedings Acad. Nat. Sci. Philadelphia, Pt. II, 1885.
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 Young Ornithologist, I, No. 5, Sept. 1885.
 Zeitschrift für die gesammte Ornithologie, II, Heft 3, 1885.
 Zoologist, IX, Nos. 106-108, Oct.-Dec. 1885.

GENERAL NOTES.

The Bridled Tern (*Sterna anæthetus*) in South Carolina.—Mr. Walter Hoxie has sent me a specimen of this species shot August 25, 1885 (immediately after a hurricane), at Frogmore, South Carolina. It is a young male in fresh and very perfect autumnal plumage. The occurrence of this species in the United States has been previously open to some doubt, although Mr. George N. Lawrence has a specimen (formerly in the Audubon collection) which is labelled as having been taken in Florida.—
 WILLIAM BREWSTER. *Cambridge, Mass.*

The Wild Swan in Prince Edward Island.—For several days previous to the 7th of October Mr. Wm. Stead, of Wheatly River, Prince Edward Island, observed a large bird in company with his flock of Geese. After making several unsuccessful attempts at capturing the stranger, he finally shot it. It proved to be an American Wild Swan, measuring 6 feet 6 inches in extent, and 4 feet 9 inches from tip of bill to toe.

This is the first recorded instance of the capture of a Wild Swan in Prince Edward Island, and shows how rarely these birds, though breeding in the Far North of Hudson's Bay, visit in their migrations the extreme east of the Continent.—F. BAIN. *North River, Prince Edward Island.*

Sandpipers at Sea.—On May 6 of this year, I was a passenger on the steamer 'St. Laurent,' which sailed from New York at 10 A. M., with a light east wind and clear weather. May 7 and 8 the wind held east,

gradually increasing to a fair breeze. Yet not at any time was there more than a fair summer breeze, though the gradual increase of the old swell running from the east told us of a storm not far ahead. We did not catch the storm, but learned, on reaching port, that steamers a few hours in advance had found rough weather. Both days were more or less foggy, the steam horn blowing on and off about half the time.

The fastest run up to 12 M. on May 8 was 582 miles. I regret that I am now unable to give exact position, but as we took a slightly more southerly course than is usual with the French line, it can easily be approximated.

On May 8, at 2 P. M., while watching some Petrels, I noticed a flock of Peeps on the port side, flying towards the steamer from the northwest. When within about 80 yards of us they turned to the east till they could pass our bows, then turned sharply, passing within a few yards, or even feet of us, and then off to the S. E. by E. I at once went to the upper deck to watch for more, and was surprised to find that, in every direction, as far as I could see in the then light fog, were large flocks of Peeps all flying in the same direction, S. E. by E. The birds were flying in large scattered flocks of from fifty to apparently several hundred birds. The flight lasted for nearly three hours, during which a very large number of birds must have passed us.

Why were they flying S. E. by E.? They should at that season have been bound for their northern breeding grounds and not for Africa.

There was not any evidence tending to show that the birds were lost, as all flew exactly the same way. Every flock that found our vessel in their line of flight, and of which there were not less than fifty, turned to the east till they could make by our bow, not one flock, or even a single bird, did I see turn to the westward to cross astern of us.

They were flying strong, easily passing our steamer, then making 12½ knots. Not one tried to alight, nor did any fall into the water, nor were any seen floating, though I watched carefully.

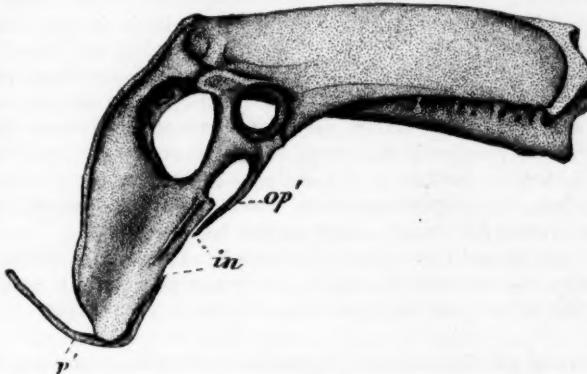
Whether the Peeps were *Tringa minutilla* or *Ereunetes pusillus* I can not say, but surely they were out of place and fast getting more so.—W. A. JEFFRIES, Boston, Mass.

On the Proper Name for the Prairie Hen.—Probably all ornithologists who have had the opportunity of investigating the matter, or who have carefully read Mr. Brewster's important article on 'The Heath Hen of Massachusetts' in 'The Auk' for January, 1885 (pp. 80-84), fully agree with Mr. Brewster in regard to the necessity of recognizing two species of the genus *Tympanuchus* (formerly *Cupidonia*), and indorse his restriction of the specific name *cupido* to the eastern bird. No other view of the case, in fact, seems admissible. In giving a new name to the western bird, however, Mr. Brewster has unfortunately overlooked a supposed synonym of *T. cupido*, which applies exclusively to the western species, as I have very recently discovered in compiling and verifying references pertaining to the two birds. The supposed synonym in ques-

tion is that of *Cupidonina americana* Reich. Syst. Av. 1850, p. xxix, based on figures 1896-98 of his 'Icones Avium' (Vollständ. Naturg. Huhnerv. Aves Gallinaceæ). The two smaller of these three figures unquestionably represent the western Prairie Hen; the other, and principal figure, is a reduced copy from Wilson (American Ornithology, pl. 27, fig. 1), which, that author tells us, is "A figure of the male . . . as large as life, drawn with great care from the most perfect of several elegant specimens shot in the *Barrens of Kentucky*." (Italics my own.)

It is thus plain that the western Pinnated Grouse, or Prairie Hen, must be called *Tympanuchus americanus* (Reich).—ROBERT RIDGWAY, Washington, D. C.

On the Free Post-pubis in certain of the Falconidæ.—Being engaged upon the osteology of the North American Falconidæ, and at present not very fortunately situated so far as the literature of my subject is concerned, I would like to ask some one of the many readers of 'The Auk,' to whom the larger anatomical works are more accessible, and who may be, at the same time, interested in the structure of birds, for the authority I must refer to, if, indeed, it has ever been described, for an account of the peculiar condition in which we find the post-pubic element of certain Hawks.



Right lateral view of the pelvis of *Buteo borealis calurus*, showing the free hinder portion of the post-pubic element (*p*); *in*, the interval which occurs between it and the obturator portion (*op'*). Life size from the specimen.

As an example, we meet with the peculiarity in question, well displayed in the pelvis of the common Marsh Harrier, where we observe the hinder two-thirds of the post-pubis to be a separate piece of bone held in its usual position, as found in birds, by being freely suspended to the lower margin of the ischium by ligament. Between this free portion of the element, and that part which closes in the obturator foramen, quite an inter-

val exists. This latter is spanned over in the living bird by a delicate band of fibrous tissue. In the genus *Buteo* a similar state of affairs obtains, and I present above a drawing of the pelvis of a specimen of *B. borealis calurus*, offering an aspect from which the point I refer to, may be seen. This figure happens to be taken from a skeleton of this bird, which I have recently forwarded to the Museum of the University of Edinburgh. Some of the representatives of the genus *Falco* have the post-pubis all in one piece, as we find it in the vast majority of the class, though a thinning of its middle portion may usually be detected.

In the figure of a skeleton of an Eagle presented by Mr. F. Jeffrey Bell (after Milne-Edwards), in his 'Comparative Anatomy and Physiology,' only that portion of the post-pubis is shown which closes the obturator foramen. This is equally true of Sir Richard Owen's figure of the pelvis of one of these birds in his 'Anatomy of Vertebrates' (Vol. II, p. 33, fig. 23).

Quite often it happens that the obturator foramen is closed in by the ligamentous band which connects the free extremity of this anterior portion of the post-pubic element (*opf'*) with the ischium. Indeed, the last named author alludes to this, and says that "the shortest pubis is seen in certain Eagles, in which it terminates after forming the lower boundary of the obturator foramen; its extremity there projecting freely, as in fig. 23, *d*, or being joined by ligament to the ischium, as in the Harpy Eagle, in which it is an inch in length, whilst the ilium is six inches long" (*op. cit.*, p. 36).

Unfortunately, I happen not to have the skeleton of an Eagle at hand, but it seems to me, in view of the fact that the genera of Buzzards and Eagles are quite closely-affined, the latter birds should possess this free portion of the post-pubic element of the pelvis also. As it is often detached during maceration, it is quite possible that in the course of the preparation of the specimens from which M. Milne-Edwards and Sir Richard Owen's figures were taken, it may have been lost.

As Eagles are quite common in this vicinity, I hope to be able to decide this point, on some future occasion, by dissection of a fresh specimen.—**R. W. SHUFELDT, Fort Wingate, New Mexico, 8th Nov. 1885.**

Capture of the Scissor-tailed Flycatcher (*Milvulus forficatus*) on the Southeast Coast of Florida.—On the 2d of March, 1885, I shot one of these birds, a male, at Cape Sable—the only one noticed. I think its occurrence so far east worthy of note.—**N. S. GOSS, Topeka, Kansas.**

The Scissor-tailed Flycatcher (*Milvulus forficatus*) at Key West.—In a collection of alcoholic specimens of birds made at Key West, Florida, January 15, 1885, by the naturalists of the U. S. Fish Commission Steamer 'Albatross' is a specimen of this species (U. S. Nat. Mus. No. 102,444). The record should have been made before this, but I had quite forgotten the matter until reminded of it by the above note by Col. Goss.—**ROBERT RIDGWAY, Washington, D. C.**

The Baltimore Oriole in Massachusetts in November.—On Nov. 15, 1885, I shot a male Baltimore Oriole (*Icterus galbula*), in perfect plumage and condition, while feeding upon frozen apples in an orchard. I send this account of the late appearance of this bird, which usually leaves us in September, thinking that it may be worthy of record in 'The Auk.'—
CHAS. E. INGALLS, *East Templeton, Mass.*

Icterus galbula in Connecticut in November.—A young male was shot in my dooryard Nov. 15, 1885. It was in good condition and showed no signs of ever having been caged. It was seen about my grounds several days previous to the above date.—JNO. H. SAGE, *Portland, Conn.*

The Vernacular Name of *Plectrophenax hyperboreus*.—The specific name of this species was chosen in consequence of the supposition, recently proven to be erroneous, that "the summer home . . . is probably the unknown region to the north of the Arctic mainland, since, at the extreme northern point of Alaska [Point Barrow] only the true *P. nivalis* breeds." The American Ornithologists' Union Committee on Classification and Nomenclature decided upon 'Polar Snowflake' as a more suitable vernacular name for the species than that of McKay's Snow Bunting, originally bestowed upon it; but since we now have positive evidence (the nature of which I am not at present at liberty to explain) that its breeding habitat is not polar, and is in fact considerably south of the Arctic Ocean, I would suggest that the species be called McKay's Snowflake, "in memory of Mr. Charles L. McKay, who sacrificed his life in the prosecution of natural history investigations in Alaska, and in whose collections the new species was first noticed." (Cf. Proc. U. S. Nat. Mus., Vol. VII, pp. 68-70.)—ROBERT RIDGWAY, *Washington, D. C.*

Ipswich Sparrow in Texas.—I have in my collection an adult male *Ammodramus princeps* taken at Dallas, Texas, Dec. 10, 1884. I obtained it from Mr. Fred. T. Jencks of Providence, who writes me in regard to it as follows: "The Ipswich Sparrow was purchased from the collector, Mr. Clothrie Pierce, for a Western Grass Finch, and it was so labelled until the day I picked out your series of Sparrows, when I detected its true identity." This largely extends the habitat of this comparatively new species, heretofore only recognized on the sand hills of the Atlantic Coast.—GEO. B. SENNETT, *American Museum of Natural History, New York.*

Occurrence of the Ipswich Sparrow (*Ammodramus princeps*) in Nova Scotia.—A short time ago I forwarded to Mr. Montague Chamberlain of St. John, N. B., a Sparrow for identification, and he has kindly returned it with the intimation that it is an example of the Ipswich Sparrow (*Ammodramus princeps*), a bird which has never before been included in our fauna. I shot the specimen while after Ducks on the Coast at Lawrence-town, near Halifax, about the end of March, 1878, as it was feeding on

seeds among the bent grass near the shore. Mr. Chamberlain informs me that its only known breeding place is Sable Island, which is but 80 miles out at sea from our coast; it may therefore breed on some part of our eastern seaboard between Cape Sable and Cape Breton. Not being aware of the rarity of the species, I did not search for more at the time, but I am almost positive that I have seen other specimens since. However, I hope next spring to be able to prove that it is not so rare a bird, at least in this Province, as it is supposed to be.—T. MATTHEW JONES, *Halifax, N. S.*

The Lark Finch in New Jersey.—On November 26, 1885, while collecting at Schraalinburgh, N. J., within about six miles of the New York State line, I captured a female Lark Finch (*Chondestes grammacus*). It was in excellent condition, the moult just completed. The appearance of this bird, so far from its natural habitat, was without doubt caused by the severe storm of November 21-24, which, arising in Western Kansas and traveling at an average speed of forty miles an hour, in at first a south easterly, and then northeasterly direction, became, November 24, central on the New Jersey coast near Atlantic City.—FRANK M. CHAPMAN, *Englewood, N. J.*

The Winter Distribution of the Swamp Sparrow and the Yellow-rump.—On pages 380 and 381 of the last volume of 'The Auk,' Mr. Arthur P. Chadbourne has something further to say with respect to the wintering of Swamp Sparrows in Massachusetts and of Yellow-rumps in Maine, during the season of 1884-85. Mr. Chadbourne intimates that he is willing to have the question made one of evidence, and repeats with some changes of phraseology the information he has previously (Auk, Vol. II, p. 216) brought forward on the subject of the Sparrows, without, however, the addition of any new facts. This information is in brief as follows: Four Swamp Sparrows were seen by a collector in Cambridge on December 29, 1884, and one of them was shot and preserved; *the remains* of another—perhaps one of the original four—were found, not far from the same spot, on January 31, 1885. Upon such ground is based the conclusion that Swamp Sparrows tarried in the vicinity throughout the winter,—a conclusion which is plainly not justified in the light of the facts, that the season was exceptionally severe after the middle of January and exceptionally mild before that date, and that this species has never been shown to remain in Massachusetts throughout any winter season. The claim that in Massachusetts January is a test month for irregular winter residents cannot be made in behalf of the Swamp Sparrow, for the very reason that the bird has as yet no right to a place in that class. To assert that it never will have such a right, is far from my intention. Not much evidence is needed to prove that it can brave the rigors of an entire winter season in Massachusetts; but until the missing links in the chain are produced, no good strict constructionist will admit, I think, that the Swamp Sparrow has been found 'wintering' in that State. Mr. Chadbourne's cita-

tions of instances wherein certain other kinds have passed the winter far to the north of their usual habitats are simply irrelevant, and his references to what may be possible are entirely outside the range of evidence.

But when Mr. Chadbourne comes to speak of Yellow-rumps, he is, to say the least, forgetful of the laws which regulate the geographical distribution of birds. He believes it "almost equally certain that the Yellow-rumped Warblers were wintering at Pine Point, Maine," because "they do regularly at Milton, Mass., only about ninety miles south," and because they winter also at other points in Massachusetts. He gives no other reasons. It is hardly necessary to discuss the cogency of those which he does produce: they are not in the nature of evidence.—NATHAN CLIFFORD BROWN, *Portland, Maine.*

On the Former Breeding of *Psaltriparus minimus* in South Carolina.—In a letter received sometime since from Dr. C. Kollock, mention was made of the former breeding of the Least Bush-tit in the vicinity of Cheraw, South Carolina. Subsequently I wrote to him asking for further particulars concerning this interesting occurrence. His reply is as follows:—"As to the Chestnut-crowned Titmouse—*Parus minimus* of Townsend and Audubon—I never wrote anything on the subject except a short letter to the Rev. Dr. M. A. Curtis, who was then pastor of the Episcopal Church at Society Hill, about fifteen miles below Cheraw. When I first wrote him that I had found specimens of the Chestnut-crowned Titmouse near Cheraw, he wrote me promptly, saying that I must be mistaken, as that bird was never seen east of the Rocky Mountains. I had captured both the male and female, and the nest with six eggs in it. A few days later Dr. Curtis came to Cheraw, and when he saw the birds, nest, and eggs, he gave it up and said, 'You have discovered the first Chestnut-crowned Titmouse ever seen this side of the Rocky Mountains.' I saw perhaps six or eight others in the same locality. I have never seen any since that date, [the spring of] 1857, so it must have been an accident their appearing in this latitude."

This account adds still another instance of that peculiar easterly migration of 'western' species toward the South Atlantic seaboard, which has so recently been revealed in the records of Le Conte's Bunting, Painted Longspur, Nelson's Sharp-tailed Finch, and Yellow-headed Blackbird.

It is to be hoped that the constantly increasing band of ornithological workers, scattered over the State, will be able to throw the clearer light of later experience on this and other legacies of the Bachmanian epoch of South Carolinian ornithology.

P. S.—Since writing the foregoing I have received a more detailed account from Dr. Kollock respecting the occurrence noted above, from which I add the following:

".... The nest was suspended from low bushes, from three and a half to five feet from the ground; was in the shape of a long purse, from four to six inches in length, with a round hole at the top. The lower part or bottom of the nest was wider than the upper part. The nest was made

principally of moss, lint, and down, and lined with feathers. There were several eggs—I do not now remember how many—four or five, I think, and were pure white. The nest was in a low place, not exactly a swamp or marsh, but a low bottom, grown up thickly with bushes of sweet-gum, hackberry, a bush known here as the spice tree. It was most beautifully and securely attached to the twigs.

"In 1857, Dr. Curtis was in the zenith of his reputation as a botanist and ornithologist. He died soon after the war. This is all I have to say on the subject of the *Parus minimus* being found in South Carolina. I had the male and female and a nest of eggs, all of which was burned in my office by Sherman's army in 1865. The birds and nest I procured in in the very early part of May or latter part of April. . . . I was not mistaken in my identification. I saw the birds before they were captured, knew they were rare in this region, having given some attention to the ornithology of this State. Having procured the specimens, I referred the matter to Dr. Curtis, who, when he saw them, admitted at once they were the *Parus minimus*, and said, 'You are the first to find this bird east of the Rocky Mountains.' Dr. Curtis doubted my correctness of identification till he saw the specimens."—LEVERETT M. LOOMIS, Chester, S. C.

Helminthophila celata in **South Carolina**.—This plain-colored little bird, discovered and described by Say in 1823, was for a long time supposed to inhabit only the West, from the Mississippi to the Pacific Ocean, as in 1858 Professor Baird gives its habitat as such. But in later years the bird has been taken all along the Atlantic coast. Audubon is one of the early writers who defines its habitat correctly. I first became acquainted with this interesting little Warbler in the fall of 1884. I secured the first specimen I had seen living on the 29th November, 1884. I was attracted to it by its peculiar little chirp. It kept in the thickest of the bushes, and was not still for a second, so I had considerable difficulty in procuring it. The bird was shot on Sullivan's Island. This island, about six miles long, and seven miles from Charleston, is a famous summer resort for the residents of Charleston. It is directly on the Atlantic Ocean, and is my favorite collecting ground for this Warbler, as well as the numberless Waders that migrate along the coast in April and May. This Warbler is a late autumnal migrant, arriving late in November, and wintering in small numbers, especially on Sullivan's Island, as nearly all my specimens were taken on that island. They were all shot from myrtle bushes, and invariably fell when shot into the water. I therefore consider this species strictly maritime when in South Carolina. The bird reminds me of the Worm-eating Warbler, it being exceedingly active, and always keeping in the thickest bushes, searching for worms and larvæ amongst the dead leaves. I have failed to find the species five miles from Charleston, away from the coast, but have taken it nine miles from Charleston on the coast. I have taken specimens in November, December, January, February, and March. The bird appears to migrate early in the spring. They love to gambol in company with the Yellow-rumped Warblers, and

different Sparrows. I have taken males in January with the crown bright orange. My first specimen, secured November 27, was a young bird of the year, and not knowing what it was, I accordingly sent it to Mr. William Brewster for identification. He identified it as the Orange-crowned Warbler, young. I had therefore no more trouble in identifying others in the same stage. I secured in all about fifteen specimens during the winter of 1884. I may here add that *Dendroica dominica* is resident in South Carolina, as I have taken specimens in every month in the year.—ARTHUR T. WAYNE, *Charleston, S. C.*

Dendroica dominica albilora obtained in Chester County, South Carolina.—May 7, 1885, I shot an example of the Yellow-throated Warbler which appeared at a glance quite different from the ordinary specimens taken in this locality. After reading up the descriptions in the books and making careful comparison with a couple of skins secured by Dr. J. M. Wheaton at Columbus, Ohio, I became satisfied that I had found the western subspecies. This has been confirmed by Mr. J. A. Allen, who says, as the result of a recent examination, "The specimen of *Dendroica* is, so far as I can see, *D. dominica albilora*, it presenting all the characters of that form."

The occurrence of so many instances in South Carolina is suggestive of lines of migration of 'western' birds hitherto unnoted; a regurgitating one from the north, in fall, *via* the Mississippi Valley and the region lying to the southward of the Southern Alleghanies, bending upward into South Carolina; and a diverging one from the south, in spring, along the Gulf Seaboard. The isolated autumnal record of the Lark Finch in Florida seems to afford additional and corroborative evidence. While the original planting of the parent stock of the Burrowing Owl, now existing in the western part of that State, is perhaps equally indicatory.—LEVERETT M. LOOMIS, *Chester, S. C.*

Additions to the Avi-fauna of Texas.—Mr. George H. Ragsdale writes me that he has taken in Cook Co., Texas, *Turdus ustulatus auduboni*, *Geothlypis trichas occidentalis*, *Seiurus nœvius notabilis*, *Geothlypis macgillivrayi*, *Chondestes grammacus strigatus*, *Spizella monticola ochracea*, *Spizella socialis arizonæ*, and *Porzana jamaicensis*. Mr. N. C. Brown has previously recorded *Turdus auduboni** and *Spizella arizonæ†* from Kendall, Co.; the others appear to be new to the State.—WILLIAM BREWSTER, *Cambridge, Mass.*

Birds New to the District of Columbia.—In addition to the Prairie Chicken (*Cupidonia cupido*), the capture of which was cited by Mr. Robert Ridgway in 'Forest and Stream,' of April 9, and the White-throated Warbler (*Helminthophila leucobronchialis*), noted by Mr. William Palmer

* Bull. N. O. C. Vol. VII, p. 38.

† Ibid., Vol. VII, p. 127.

in 'The Auk' for July, there were three accessions to the District fauna during the year 1885, viz.:—(1) English Teal (*Anas crecca*), shot on the Potomac River near Washington, in April, and presented to the National Museum (No. 106,061). (2) Stilt Sandpiper (*Microptala himantopus*), taken on the Pawtuxent River, Maryland, September 8, by Mr. H. W. Henshaw, who has kindly communicated these data to me. This capture was made beyond the regular District boundary, but was, however, included in what has been tacitly regarded as its faunal and floral limits. (3) Northern Phalarope (*Phalaropus lobatus*), killed on the eastern branch of the Potomac, October 17, by Mr. F. S. Webster, in whose possession the bird now is.

A perusal of the catalogues of the bird department of the National Museum shows some interesting entries. Through the courtesy of Mr. Ridgway, the curator, I have been enabled to examine the twenty large volumes in which the collection is invoiced, with some interesting results, only one of which need be mentioned at this time. The first volume, which carries us back into the forties and represents the private collection of Professor Baird and his brother, shows the following entries:—

"*Tringa alpina*, ♂ [= ♀ ad.], Oct. 22, 1842, Washington, D. C." (No. 848.)

"*Pelidna alpina*, ♂, Oct. 20, 1842, Washington, D. C." (No. 1053.)

The Dunlin is not given in any of the lists of the birds of the District; and although the above captures were made nearly half a century ago, they are 'new' to the fauna.—HUGH M. SMITH, *National Museum, Washington, D. C.*

CORRESPONDENCE.

[Correspondents are requested to write briefly and to the point. No attention will be paid to anonymous communications.]

Turner's List of the Birds of Labrador.

To THE EDITORS OF THE AUK:—

Sirs: In reply to your criticism in 'The Auk' for October, 1885 (pp. 368, 369) upon my List of the Birds of Labrador, etc. (Proc. U. S. Nat. Mus., VIII, 1885, pp. 233-254), I would state that you have evidently misconstrued the List. It was intended only to present under that heading a list somewhat approaching the character of a catalogue of the birds of the region embraced within that heading.

Access was had to all the material bearing upon the subject, and it was compiled as concisely as possible. With that material was incorporated the briefest possible references to the species of birds obtained by me. I deemed it necessary to give only a scanty sketch of Ungava, a hitherto unknown district.

The remarks were made as brief as possible in order that it should not be considered as a preliminary report upon my own investigations. I made no reference in the List to my present work of preparing a report upon the natural history of the region included under the heading of that List; and, so far as the published List is concerned, it has no connection with the report now well under way. A plan, other than following the recognized natural order of listing the birds, was not necessary for the purpose of that List.

In regard to the omission of certain species, you mention two, but there is no record of the indubitable occurrence of *Larus canus* within the region defined. The young specimen, in first plumage, of *Larus canus*, upon which is based the statement of the occurrence of this species in Labrador, is in the U. S. National Museum. The identification, however, is regarded by competent authorities as so extremely doubtful that it was deemed judicious to exclude it altogether.

I regarded the alleged discovery of the Pacific Eider, by Stearns, in Labrador as so extremely improbable that reference to it was not considered necessary. The reference made by Dr. L. Stejneger, in the October number of 'The Auk' for 1885 (p. 385) has no connection whatsoever with Labrador, Newfoundland not being a portion of the territory embraced under the heading of my List.

I purposely stated that the extracts were given in the List without comment or responsibility for their assertions, as a discussion of them was not deemed to be properly within the scope of the List, however tempting it may have been.

In regard to the several species accredited to Labrador by Audubon, I considered it well to include them; and now express the desire that some competent ornithologist, like Professor J. A. Allen, of the American Museum of Natural History of New York, who is specially fitted for the task, investigate each presumably doubtful species and reject such as may be considered as not entitled to a place in a list of the birds of that region.

LUCIEN M. TURNER.

Smithsonian Institution, Washington, D. C.

October 28, 1885.

[We are very glad to learn that Mr. Turner's 'List' was not intended as a final report upon his ornithological work in Labrador, and regret that we fell into the error of so misconstruing it. As, however, it was based largely upon his own observations, and as no hint was given that any other report was contemplated, our conclusion was not only a natural one, but one we find to have been quite generally entertained.—J. A. A.]

Revival of the Sexual Passion in Birds in Autumn.

TO THE EDITORS OF THE AUK:—

Sirs: On the morning of the 12th inst. I noticed a pair of Bluebirds toying with each other affectionately, and once certainly—twice as I thought—they were in the attitude, if not in the act, of copulation. The

question occurred to me at the moment, and I should like to propose it to the readers of 'The Auk,' whether birds may not be subject to a revival of the sexual passion in autumn, and whether this may not be connected with the well-known fact that many species have a second period of song after a longer or a shorter interval of silence. Is anything known on this point?

BRADFORD TORREY.

Boston, October 13, 1885.

NOTES AND NEWS.

MR. JOHN BURROUGHS has achieved a reputation as a popular, though not over-correct, writer on a variety of natural history topics, and is the author of many delightful essays about birds, and has even come to be looked upon as somewhat of an ornithologist, not only by the general public, but by ornithologists themselves. But his recent effusion on 'Bird Enemies,' in the 'Century' for December, 1885 (pp. 274-278), is for him at least an unfortunate production, being surprisingly weak on the score of intelligence, to say nothing of good taste. It is grossly erroneous in statement, slanderous in spirit, and betrays a degree of ignorance and a narrowness of vision on the part of this well-known writer, which would be quite beyond belief were not his name appended to the article. In speaking of the *natural* enemies of birds he is either not up to his usual standard, or we have heretofore ranked his proficiency in matters of this sort quite too highly. But when he classes ornithologists "as among the worst enemies" the birds have, and closes his article by saying, "but the professional nest-robber and skin-collector [his pet epithets, as the context shows, for ornithologists] should be put down, either by legislation or with dogs and shotguns," he betrays the usual intolerance begotten of ignorance. No further proof of his lack of appreciation of the requirements of science is required than his dictum that a student of ornithology "needs but one bird and one egg of a kind." Comment on such a statement in these pages would be superfluous, but unfortunately the general public is as ignorant as this 'blind leader of the blind.'

Can it be that our friend is so entirely unconscious of the wholesale slaughter of birds for millinery purposes as his complete silence on this subject would seem to indicate?—a slaughter which runs into the millions annually, compared with which the total destruction of birds for scientific, or *quasi*-scientific, purposes is as 'but a drop in the bucket.' Can it be, too, that his acquaintance with genuine ornithologists is so slight that he does not know that they, as a class, are among the best friends the birds have; that they never destroy wantonly or needlessly, and often regret the necessity of taking the lives of birds in behalf of scientific progress; that they deplore and frown upon much of the egg-collecting done in the

name, but not in the spirit and interest, of science; and that they are already combining aggressively to check the wholesale slaughter of birds, the real extent, purpose, and source of which our violent critic seems never to have dreamed? While intelligent criticism is generally welcome, and usually beneficial, an ignorant tirade is unquestionably harmful, even to the cause it is intended to promote; and it is to be hoped that when next Mr. Burroughs assumes the rôle of public censor he will have a fair degree of acquaintance with the subject he takes in hand.

THE A. O. U. Committee for the Protection of Birds met at the office of Mr. William Dutcher, 51 Liberty Street, New York City, on December 12, and organized for work by the choice of Mr. George B. Sennett for Chairman, and Mr. Eugene P. Bicknell for Secretary. Several new members were added to the Committee, and there was some preliminary discussion of plans and methods of work. A second meeting was held on December 19, at the American Museum of Natural History in New York, in accordance with a vote passed at the previous meeting to hold a sitting (for the present at least) at 4 P. M. on Saturday of each week, at the American Museum. At each of these sittings seven of the twelve members of the Committee (all of those resident in New York) were present, and much was done in the way of preliminary work. A subcommittee was appointed to collect statistics respecting the extent of trade in bird skins for millinery purposes, and the destruction of birds, particularly in the neighborhood of New York, and also elsewhere in the United States; and another subcommittee to procure a full series of the legislative enactments of the different States in behalf of bird protection, as a basis for intelligent action in respect to this phase of the subject.

It seemed to the Committee that a large part of its work must be directed, for the present at least, toward a diffusion of information among the people at large respecting the very serious magnitude of the destruction of bird life for purely mercenary purposes, and its necessarily terrible influence in diminishing the number of birds—an effect already in many instances appallingly evident—and the creation of a sentiment against the use of birds for decorative purposes, and in general for the better protection of our native birds. The Committee has already begun the collection of material bearing on this general subject, which will soon be elaborated and widely published.

AT THE meeting of the Nuttall Ornithological Club, held December 1, 1885, the annual election of officers was held, resulting in the re-election of the present incumbents, except Recording Secretary H. A. Purdie and Corresponding Secretary J. A. Allen, the former having resigned and the latter being no longer in Cambridge. The officers for 1886 are as follows: President, William Brewster; Vice-President, W. A. Jeffries; Recording Secretary, Arthur P. Chadbourn; Corresponding Secretary, H. A. Purdie; Treasurer, Charles F. Batchelder.

The meetings are held the first and third Tuesdays of each month, from October to June inclusive, but for the present will be informal, owing to the absence of a number of the prominent members.

THE death of Dr. Samuel Cabot of Boston, on April 13, 1885, in his seventieth year, removes another of the earlier ornithologists who were the contemporaries of Audubon and Nuttall. Dr. Cabot was graduated at Harvard College in 1836, and at the Harvard Medical School in 1839. In 1841-42 he made an expedition to Yucatan, where he gathered important collections in ornithology, discovering, among other new species, the Ocellated Turkey (*Meleagris ocellata*), described by him in 1842. From this date till 1858 he contributed numerous short papers on birds to the 'Proceedings' and 'Journal' of the Boston Society of Natural History (Proc., Vols. I-IV; Journ. Vols. II-V), relating largely to his ornithological work in Yucatan, but also to the birds of the United States, and more especially to the rarer species of New England. He also wrote briefly on other Natural History subjects. In 1850 his work in ornithology practically ceased, in consequence of the pressure of professional engagements, but he maintained a strong interest in the subject until his death. His ornithological collection and notes have passed into the possession of the Boston Society of Natural History, in which society he was for many years Curator of the department of Ornithology. The types of many of his species still exist.

Dr. Cabot's published papers on ornithology, aside from his reports as Curator, number not far from fifty, ranging in length from a few lines to seven or eight pages, and are in part anatomical. The more important of his contributions are the following: On the Birds of Yucatan, in Stephens's 'Natural History of Yucatan'; Description and Habits of some Birds of Yucatan; Red and Mottled Owls; Observations on the Character and Habits of the Ocellated Turkey; Further account of some of the Birds of Yucatan; The Dodo a Rasorial and not a Raptorial Bird; On three new Woodpeckers from Yucatan; Supposed identity of *Anas penelope* and *A. americana*, etc.

MR. John Snowdon Howland, an Associate Member of the A. O. U., died at his home in Newport, R. I., September 19, 1885. Mr. Howland was well known as an oölogist, and at his death possessed one of the finest private oölogical collections in this country, and one which was especially noteworthy for its quality. He was for many years a great sufferer from a disease which not only prevented active field work, but which often for months confined him to his bed. He was greatly respected and esteemed by those of his fellow workers who had the pleasure of his personal acquaintance.

THE publication of the A. O. U. Code and Check-List has been unavoidably delayed, but the appearance of the work within a few weeks may now be confidently expected.